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SEPTEMBER 2000

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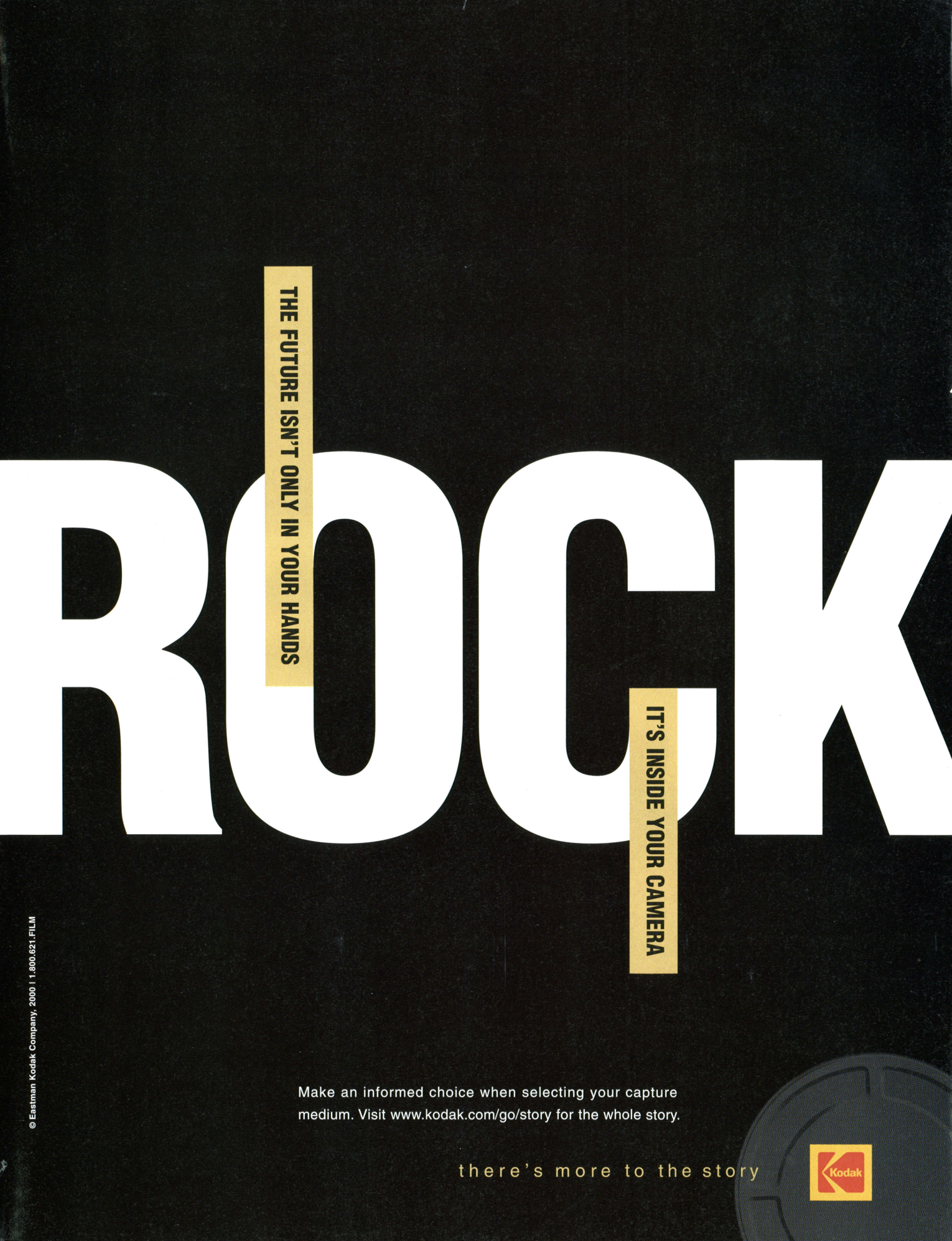
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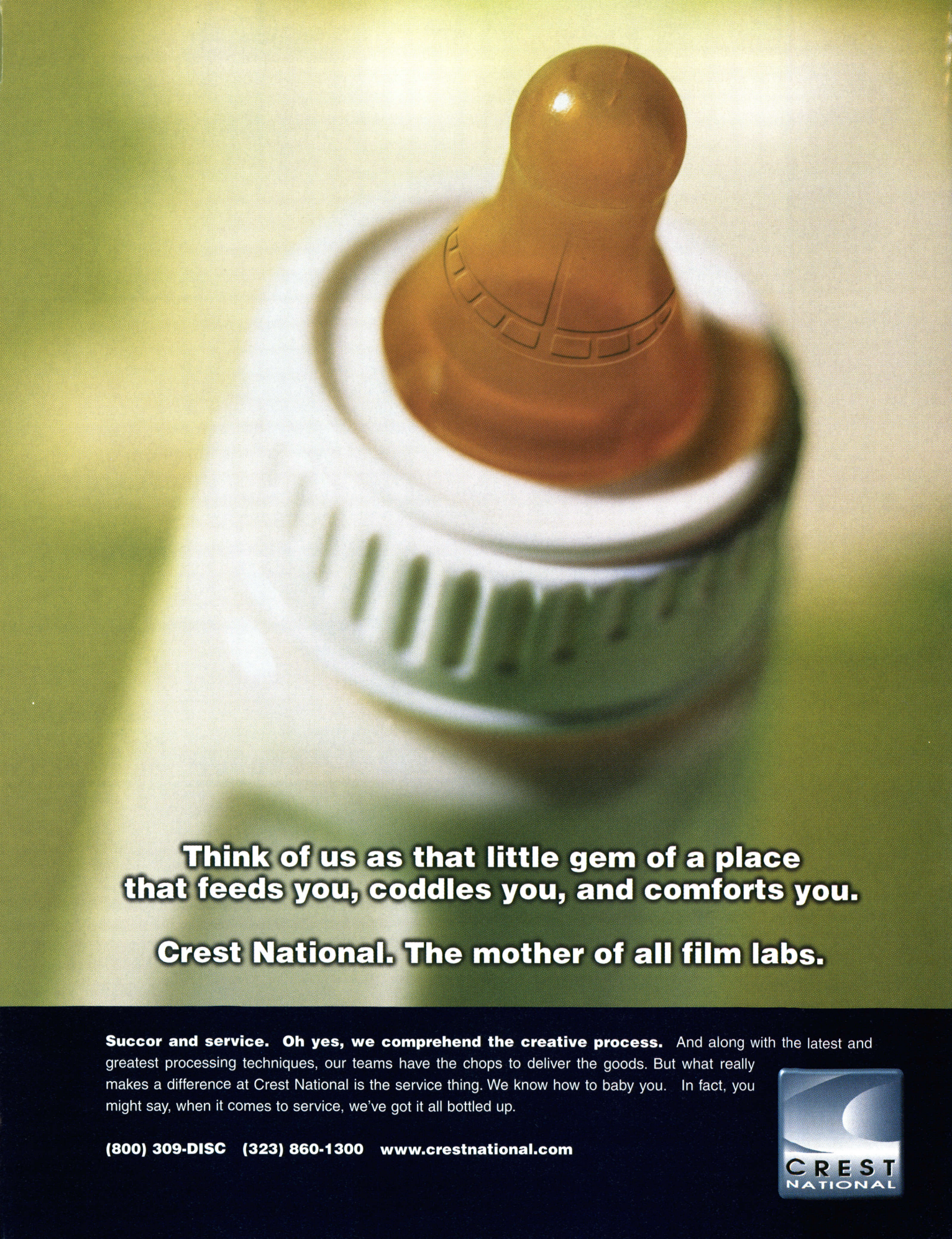

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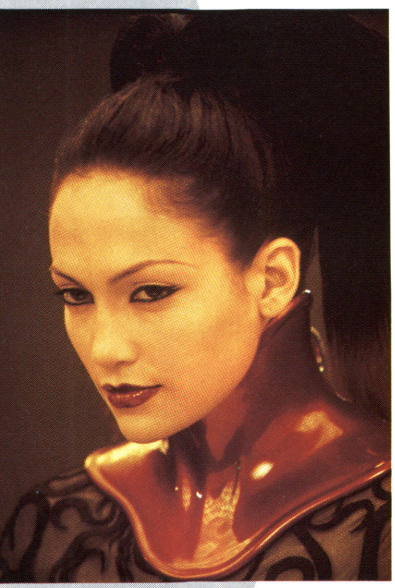

On Our Cover: Psychologist Catherine Deane (Jennifer Lopez) delves deep into the disturbed mind — and fantasies — of a serial killer in *The Cell*, a macabre thriller directed by Tarsem and photographed by Paul Laufer (photo by L. Sebastian, courtesy of New Line Cinema).

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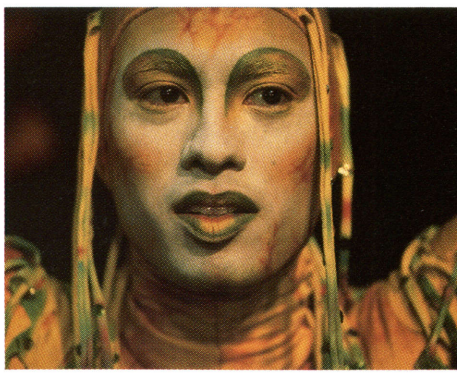

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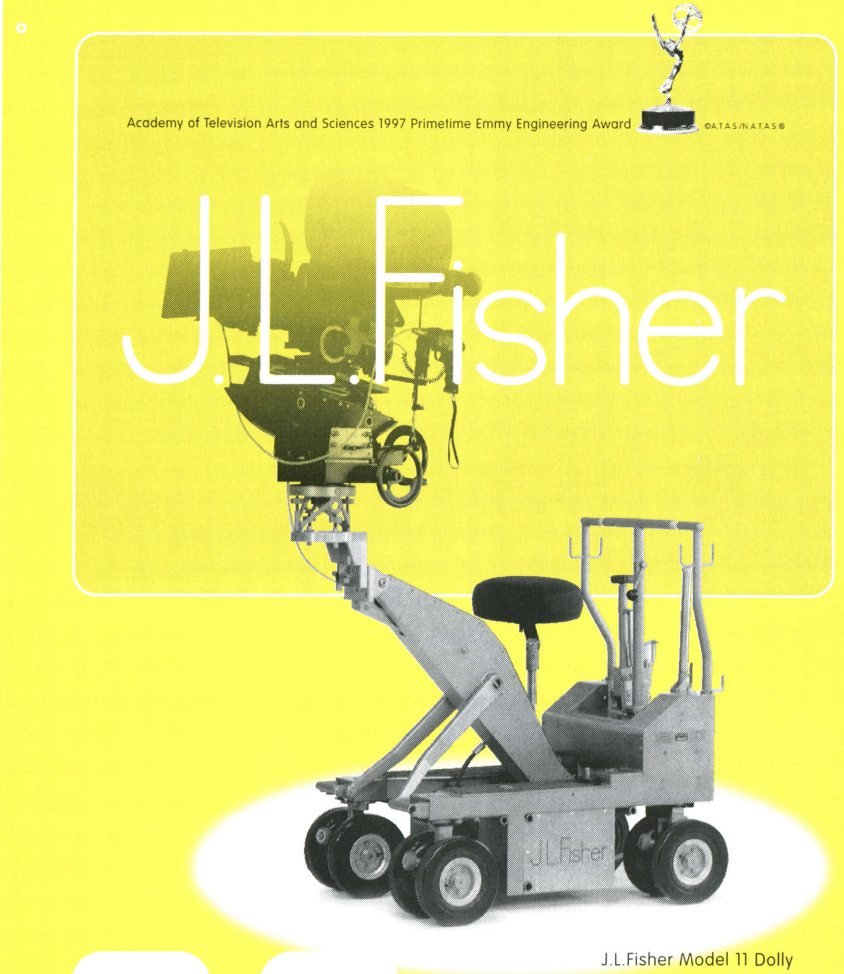

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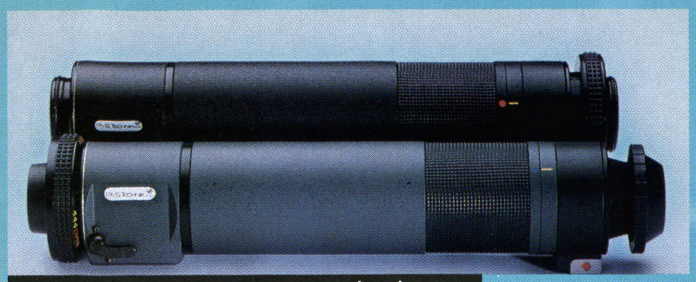

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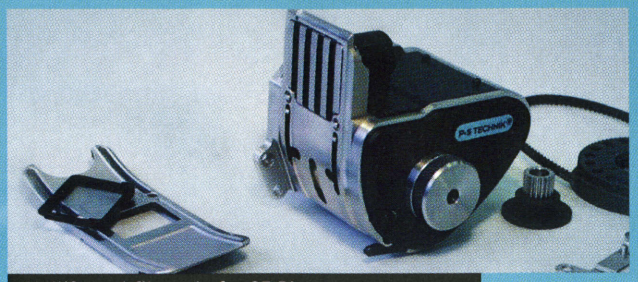

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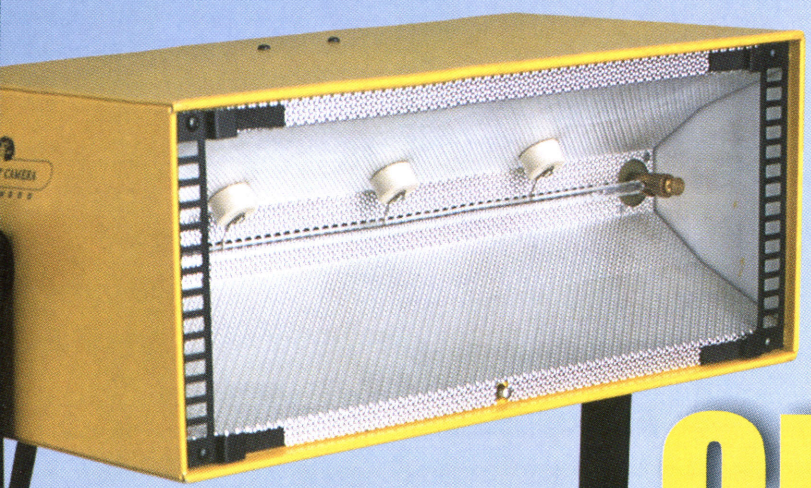


Getting Shots Clairmont

They're Light Years Ahead Of The Competition. And For Many Important Reasons...

Every now and then we like to remind cinematographers, directors and producers about the advantages of using Clairmont strobes. For capturing dynamic action shots, highlighting motion and working with food... our exclusive compact design, cool strobes are the answer.

Proven Time After Time

But don't just take our word for it. Noted Director of Photography Gary Manske says, "I have used Clairmont strobes on dozens of commercials in a variety of ways. This has included capturing extreme action in toy spots, to enhancing the beauty of liquid on food shots. I most recently used them for an ice cream commercial which featured small candies being dropped on top of a scoop. The Clairmont strobes not only captured the beautiful details, they gave me a low temperature light source to keep the ice cream cold. And on a practical note, the Clairmont strobes are also very reliable and easy to set up. This is always a plus in today's fast paced commercial world!"

Convenient 120v AC Power!

One important reason why Clairmont strobes are so versatile and easy-to-use is that they require only a standard household 120v AC power source. This lets you shoot in virtually any location, and not be limited to using sets on a 220v sound stage or industrial environment.

Works With Most Cameras

Another key factor is that Clairmont strobes can be used with virtually any modern camera; Aaton, Arriflex, Fries/Mitchell, Moviecam —even Panavision. And they can be synchronized with any speed from 4 to 150 fps.

No Special Technicians

Best of all, standard crews can handle the strobes. You don't need any special technicians. The compact 17" wide by 7" tall heads are easily positioned by the cinematographer, with the lighting effect previewed through the camera. Not only does this save money, but you won't have to listen to some guy tell you how to do your job!

Save Up To 30% More!

In addition to not needing to hire a "specialist" to operate lighting, there are other economic advantages to using Clairmont strobes. Like not needing special high speed cameras that "eat" film to sharpen action, and being able to rent Clairmont strobes at very competitive prices. What's more, we've found a three-head Clairmont package to be renting for about 30% less than the competition.

Dramatic Action Is *Easier* With Strobes

Lightweight and Powerful

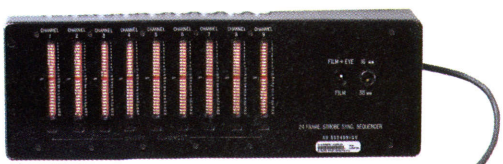
Each Clairmont strobe puts out 100 foot-candles at 4 feet. If you need more lighting, the compact 17" x 7" heads can easily be gaffer-taped together. A 400-foot-candle source measures only 34" x 14" (or you can configure it 28" x 17"). Using tape to link heads —or attach gels— is no problem, since the strobes run cool. What's more, each head weighs only 10 lbs., so a 4-head bank is only 40 lbs. That's substantially lighter than any competitor's package.

Control The Temperature

If you're shooting food, you need strobes. Regular "hot" lights will most assuredly wilt lettuce, melt ice cream and have an effect on steam, condensation, etc. With strobes, conditions are easier to control.

24 Frame Strobe Sequencer

With nine available channels, you can hook up many strobe power packs —and more than one strobe head on each channel by connecting power packs. There are 24 DIP switches per channel, which control the flash per frame. Flash on one or multiple frames per second.



Control The Light

Using Clairmont's Preview Box you can check your setups without running the camera. It's set at 61 fps so the strobe flashes will almost look like regular AC light. You can set the heads to get the desired lighting effect. And there's a Low Power switch on each strobe Powerpack that reduces output one stop. Color Temperature is 7000° K.

In Sync

The Sync Box automatically relays timing signals from the camera. You can capture input from multiple cameras and synchronize them with the strobe pack(s).

Rapid Pulse and Recycle

Clairmont Strobes have an exposure time of 1/50,000th –substantially less time than the shutter is open. This pulse flash, along with your T-stop, set the exposure. You can maintain the same T-stop and exposure level while varying camera speeds because Clairmont Strobes have a very rapid flash recycle time. Speeds of up to 150 frames-per-second are fine.

It All Adds Up

We believe there's not a more compact, reliable, easy-to-use and more controllable strobe unit on the market. You won't find a more versatile package and better value than renting Clairmont Strobes.

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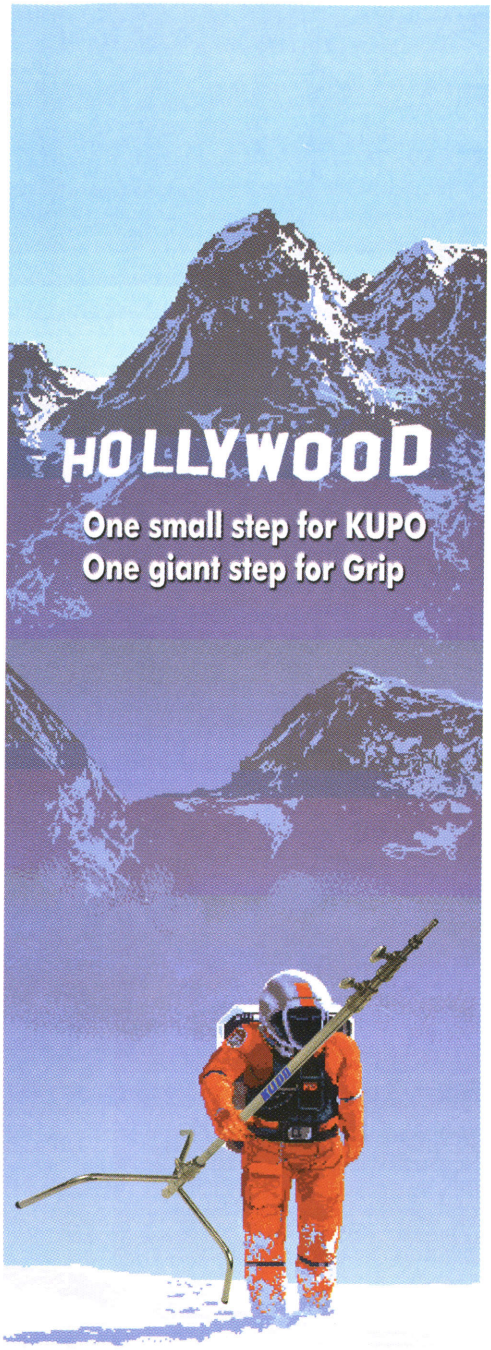

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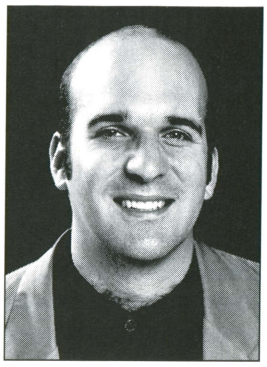


Hollywood's fascination with serial killers has produced a string of classic films over the years, and it's not surprising why. Pictures such as *Psycho, The Boston Strangler* and *The Silence of the Lambs* not only give filmmakers the chance to build suspense in truly cinematic ways, but also allow actors to show off their chops (sometimes quite literally, as Anthony Hopkins could attest).

In *The Cell,* director Tarsem and cinematographer Paul Laufer delve even further into a serial killer's madness, thanks to a futuristic premise that uses science to send a psychologist (Jennifer Lopez) directly into the mind of a murderer (Vincent D'Onofrio). To make the voyage memorable, Tarsem and Laufer have rendered the characters' mental landscapes in a surrealistic visual style rife with fetishistic overtones. This month's cover story ("Mind Games," page 42) reveals some of the adventurous techniques that were used to enhance the tale's macabre narrative.

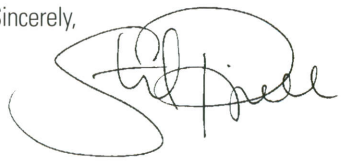
The Way of the Gun ("A Pocket Full of Shells," page 60) also puts a new spin on a time-honored genre. Writer/director Christopher McQuarrie's postmodern "Western with cell phones" features incongruously eloquent thugs who grapple with existential dilemmas before settling their scores in a more traditional manner (i.e., a brutal hail of bullets). Cinematographer Dick Pope, BSC underscores the script's ironies with a visual style that slyly recalls Technicolor Westerns of the 1950s.

The makers of TNT's *Nuremberg,* a four-hour miniseries that premiered this past July ("Crimes Against Humanity," page 94), set themselves a bold challenge by re-creating history's first war-crimes tribunal. Director Yves Simoneau and cinematographer Alain Dostie brought an appropriately sober style to the project, which earned critical kudos.

At the other end of the spectrum, the 3-D Imax spectacular *Journey of Man* renders performances by Cirque du Soleil ("Larger Than Life," page 104) with fanciful panache. ASC members John Hora, Reed Smoot and Peter Anderson lent their expertise to the film's impressive "in-your-face" effects, and our coverage includes 3-D viewing exercises that you can try at home.

Finally, this issue explores the production scenes in the U.K., Toronto and Australia (pages 118-144), whose governments offer various incentives to motion-picture companies.

Sincerely,



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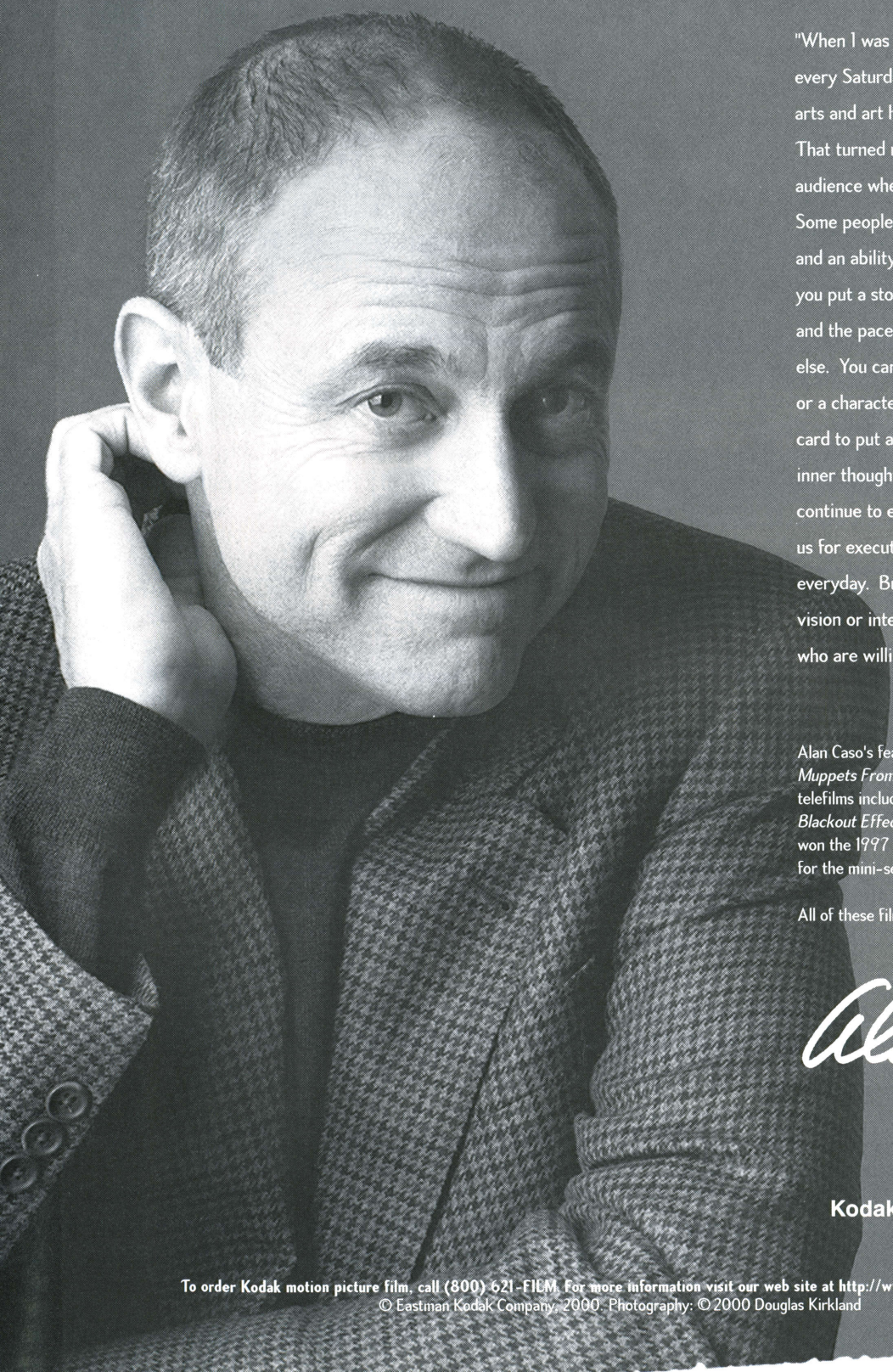
ON FILM

ALAN CASO, ASC



"When I was a kid, my father gave me art lessons every Saturday night. I studied painting, graphic arts and art history before I got interested in film. That turned my life around...It's our job to put the audience where the director wants them to be. Some people are born with a sense of composition, and an ability to imagine what it will look like before you put a story on film. You have to study the arc and the pace of the story and that defines everything else. You can make the audience feel like a voyeur or a character. Sometimes all it takes is a little bounce card to put a light in someone's eyes that reveals the inner thoughts of a character. The technology will continue to evolve, and I love the choices that gives us for executing the thousands of decisions we make everyday. But, technology will never replace the vision or integrity of individual cinematographers who are willing to trust their instincts."

Alan Caso's feature credits include *Reindeer Games*, *Muppets From Space*, *Top of the World* and *Ed*. His telefilms include *The Good Old Boys*, *Tour of Duty*, *Blackout Effect*, and upcoming is *Widows*. He won the 1997 ASC Outstanding Achievement Award for the mini-series *George Wallace*.

All of these films were shot on Kodak motion picture film.

Alan Caso

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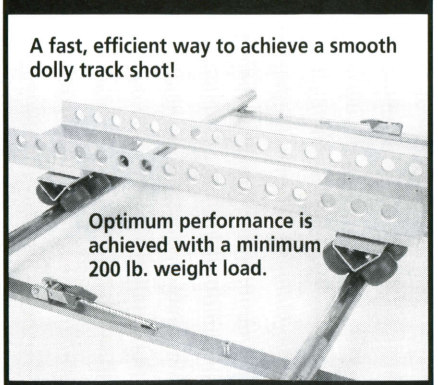

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Letters

Defining "Restoration"

It is the quality of a publication, especially one which is used as a long-term reference by students and researchers, which makes responses to articles important. *American Cinematographer,* being what it is, makes a response essential. Therefore, we would like to make a number of corrections and annotations to Bob Fisher's fine article "Indelible Compressions" [*AC* May '00].

It's nice to see that the concept of a director of photography's input in the process of re-timing negatives before the creation of new protection elements or prints may be becoming the rule rather than the exception. The more cinematically minded publishers of laserdiscs and DVDs have been accessing this invaluable brain trust for years, going back to the early days of The Criterion Collection. More important, however, is the cinematographer's contribution to actual restoration of his original images.

Our problems begin with Mr. Mina's comments. Representing the Technicolor Film Restoration Company, he would have us believe that cleaning an original negative and touching up timing is somehow a form of restoration. Cleaning a negative is, well, cleaning a negative. Repairing damaged perforations and splices is precisely that, no more. This is generic lab work that has been going on for a century. A competent color timer should be able to work with a director of photography to re-time an older (even slightly faded) negative or conform it to more modern printing equipment in an efficient and painless manner. What it is *not* is film restoration — any more than having one's car detailed is in some way restoring the vehicle.

Any quality laboratory will have a lab technician go over even the newest original negative before attempting to run it through a printer. This is common sense — and insurance companies like it. While we applaud Technicolor's desire to work from original materials, this hardly sets its restoration facility apart from one's local purveyor of one-hour processing and prints. Original negatives are our friends.

Technicolor did no restoration work on *Rear Window.* We wanted to work with Technicolor because of its newly engineered dye-transfer process, and its staff worked very hard with us and with Universal's Bob O'Neil to create superb printing matrices and the resultant, beautiful, dye-transfer prints. However, they had no hand in the restoration of this film. All of the elements used to create the restoration negative were created by YCM Laboratories, Pacific Title/Mirage and Cinesite.

The simplistic creation of black-and-white separation masters also has very little to do with either film restoration or, ultimately, with the potential survival of a film. The mere production of seps serves no purpose. Separation masters must be printed to dupe negative and an answer print produced and approved. If one were to gather the sep masters that reside in studio vaults today, which have never been tested or are not up to standards, one could easily fill a warehouse with junk film. Many films are "protected" by separation masters which cannot create dupes which will answer back or provide quality prints.

It should be noted that while most studios do not go to dupe to test their elements, some do. Universal and DreamWorks come to mind with immediacy. Sony certainly inspects them. Other studios that have taken this position should stand up and be counted, but should not apply if only for publicity purposes.

The newest Kodak (Vision) print stocks, while creating a number of new problems in film restoration, especially

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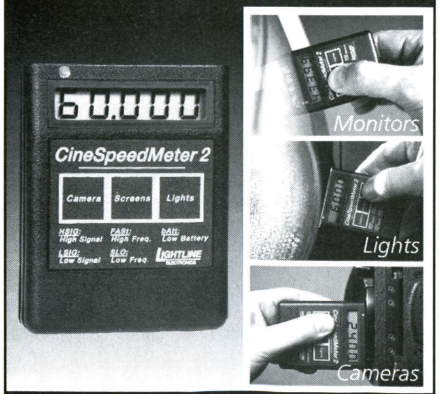

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with faded originals, can, with lesser faded material, give a finer representation of the information held within the camera original. While it's nice to see a better image on screen, this is also not film restoration.

The reason that the shot from *Rear Window* that we call "The Kiss" needed work initially was not that it had ingrained dirt, scratches, etc., but rather that it was an optical dupe created in 1954 from dry-gate separation masters which had faded beyond usability. It was initially worked on by Pacific Title/ Mirage, who optically replaced the yellow layer via its proprietary methodology, and was later sent on to Cinesite for additional work. The major problem was an extremely faded element. Mr. Mina only saw this shot after restoration.

There are many areas in which people are losing sight of what film restoration is all about. Many entities misuse the term. Probably the most egregious is Disney Home Video, with its constant "restorations" of films that have not been restored, but rather digitally cleaned and modified to a form which has no relevance to the original. A personal favorite: Disney's "fully restored" *Little Mermaid.*

No matter what the terminology, studios and video distributors would have the public believe that many old films going to video have been in some way restored. Although there are tools available today within the realm of digital video transfer that create a cleaner and better-looking image, this has nothing to do with film restoration. It's a cleaner video image. The original film can still be a mess.

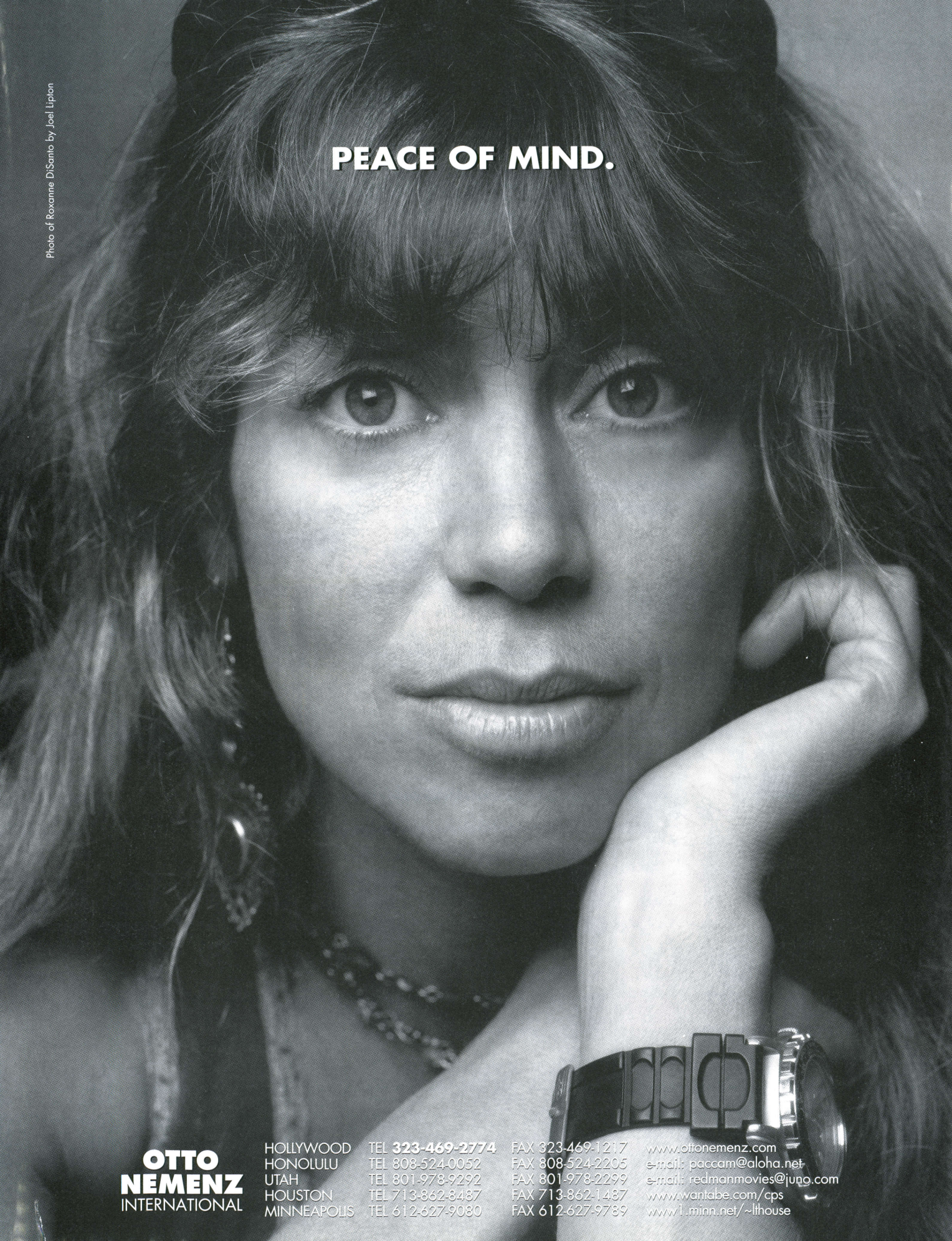
When one is working in film restoration, it should also be noted that if the cinematographer of a film is unavailable, the director, camera operator or production designer can be a good bet for advice on bringing a film back to its original look. The point is to find someone knowledgeable and not work in a vacuum. A single surviving print will generally offer little guidance. Even if one can locate original dye transfer Technicolor prints, the difference between them can be dramatically different and should not be taken as gospel.

With the higher quality of DVD images and major advances in transfer technology and image compression, the flaws of many duping elements show through now more than ever. While a multitude of sins can generally be hidden on video, this is becoming more and more difficult. The task of properly restoring film elements needs to be done once if done properly, but there is an ever-increasing danger of poor laboratory work, which actually can create additional damage. This work should only be done by laboratories that have the technical expertise necessary to handle what are essentially antique rolls of film.

— Robert A. Harris
James C. Katz
Bedford Hills, NY
Los Angeles, CA

Technicolor's Rami Mina replies: *The letter by Messrs. Harris and Katz accurately states that Technicolor Restoration Company was not responsible for the major restoration efforts on* Rear Window. *Our primary involvement was with the completion of timing the answer print in preparation for the dye-transfer matrices and prints. Any implication to the contrary was not intentional. By all accounts, Universal Studios, was quite pleased with the results.*

Harris and Katz also imply that very few, if any, laboratories and studio restoration groups have the ability to truly restore a film. As they have worked on four films over the last decade, it is somewhat understandable they would have this notion. However, though the things they downplay (inspection, repair, timing, etc.) do not constitute preservation or restoration in and of themselves — as we all know — they do go hand-in-hand with the entire process that preservation technicians at laboratories must deal with every day. Unfortunately, Harris and Katz gloss over the real point of the article, which is the importance of cinematographers' involvement in the preservation and restoration of their work. We at Technicolor will continue to give cinematographers the prominent place they deserve in this work. ■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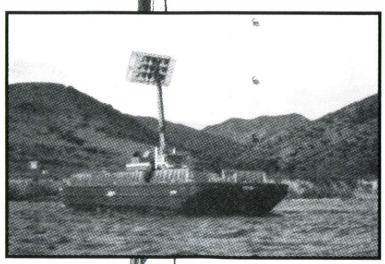

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The Post Process

Hollywood Adopts High-Speed Media.net Network

by Debra Kaufman

Hollywood has experimented with high-speed networking for about 10 years. In an industry in which time is money, it is clearly advantageous to cut couriers and Federal Express out of the picture by retrieving images instantly on the computer. The many attempts at a high-speed network have been led by telecoms and a sprinkling of postproduction mavericks with a taste for invention. But whereas the former lacked hands-on experience in how Hollywood works, the latter often lacked technical expertise.

All the networking pioneers stumbled over the difficulty posed by video, where each frame was so dense in information it taxed the widest bandwidth available. More recently, the ubiquity and ease of the Internet has seemed to offer the kind of infrastructure ideal for a Hollywood high-speed network, but bandwidth is still an issue and security issues are troubling.

Media.net offers Hollywood filmmakers the bandwidth they need to transmit video files at the highest resolution, even up to high-definition.

Until now, that is. Media.net (http://www.media.net) is a venture-backed telecommunications firm that combines entertainment-industry expertise with cutting-edge technology, providing Hollywood studios with a private Internet that has the kind of bandwidth filmmakers need — 600 times faster than DSL. Founder/CEO Scott Tolleson, a former executive at AT&T, MediaOne and EDS, has been involved in entertainment consulting and networking for 10 years. "I was familiar with the production process and its movement into the computer space," he recounts. "I was aware that computers were being increasingly used in entertainment, and I knew about the efficiencies that networks create."

Tolleson also knew that in order to catch Hollywood's attention, the network had to be easy to use and understand; he reports that half the clients with whom Media.net works have never had a computer in their offices before. Instead of rattling off statistics about megabits and bandwidth, Media.net executives simply show the prospective client the Media.net site, giving a demo that Tolleson says "looks friendly, like America Online."

It has worked. Though Media.net only opened its doors in October 1998 (funded by the acquisition of $20 million in venture and debt financing), Tolleson reports that all but one major Hollywood studio, as well as major television networks and postproduction facilities, have gone online.

What makes Media.net different from the networks that have gone before? At its core, Media.net offers Hollywood filmmakers the bandwidth they need to transmit video files at the

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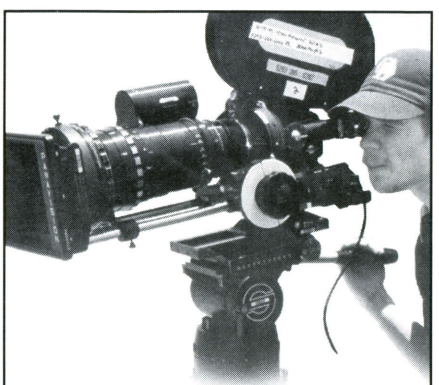

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highest resolution, even up to high-definition (HD). According to Tolleson, the Media.net network runs at 2.5 gigabits per second, which would more than accommodate uncompressed HD, which runs at 1.5 gigabits per second. Obviously, that kind of through-put is a piece of cake for the requirements of D-1 or Digital Betacam images. Clearly, this is no typical network.

"The files that contain professional-quality video would be a gigabit in size or larger, which isn't something you can download across the Internet today," says Tolleson. "The types of technologies used on the Internet are very valuable, with workgroup tools and e-commerce that create manufacturing efficiencies. But to make them usable in Hollywood, we needed an Internet for five to 10 years from now: fast, controlled and secure."

Media.net literally built its own Internet in Hollywood, digging up streets and laying down fiber-optics, the only transmission medium that can provide the speed and quality of service required by this industry, according to Tolleson. Data is stored and forwarded from four Media.net stations built in Los Angeles, Burbank, Hollywood and Santa Monica. This Virtual ATM network offers complete security because it is completely private, disconnected from the Internet we all know.

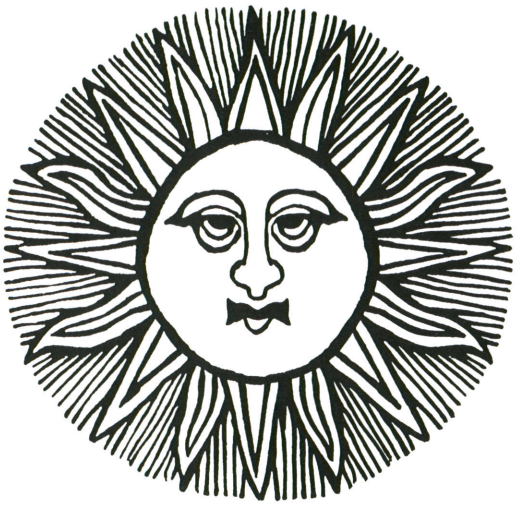
The company sets up workgroups defined by show or project, and only people involved with that project are connected. Although Media.net can also connect the private network to the Internet, most people opt to keep it shut off, reports Tolleson. "If everyone on the project is on Media.net, they don't need to be on the Internet," he points out. "We can also give them a second connection through Qwest, Global Crossing or PSI Net with good prices."

Which brings us to cost. Media.net isn't cheap; the high-quality connection costs $6,500 per month. But it is aimed at the kinds of players and projects who typically find the cost offset by the efficiency of a high-speed network. There is also a less expensive option — $375 per month — for those who only need "review-quality" video, which is defined as a 20-megabit-per-second connection. "This won't do for a review of visual effects or cinematographer's dailies," Tolleson says of the cheaper option. "But it enables a director to look at a scene and say, "Gee, that was a bad performance. Let's reshoot the scene."

Whereas Media.net provides the infrastructure and manages the subscribers, Tolleson says a group of content providers that have partnered with the company provide the tools and other content. Avid Technology will offer AvidProNet to interface with Avid products, making it more integrated with the network; Getty Images offers stock footage; Beatnik offers downloadable songs; and Creative Planet provides a variety of preproduction and production software tools. According to Allen DeBevoisen of Creative Planet, one of his company's services is PlanetPoint, an online resource that hosts the reels of creative professionals. DeBevoisen notes that Creative Planet is working with the ASC to implement the next generation of this service, enabling cinematographers around the world to host their portfolio reels online. "The ASC will work with us to get its members' reels online and to promote the service," says DeBevoise. "We believe Media.net will be a terrific distribution system for viewing those reels at studios, networks, production companies and advertising agencies."

Right now, the speediest 2.5 gigabit network is only available in Los Angeles, as well as for a handful of corporate facilities and TV filming lots in New York. But plans are afoot to complete a high-speed New York network this fall, then roll out Media.net to a host of other cities by 2001.

Is Media.net the networking service we've been waiting for all these years? Motion-picture studios, TV networks and postproduction facilities that have signed on think so. How they use it promises to define a new era in high-speed networking. ■



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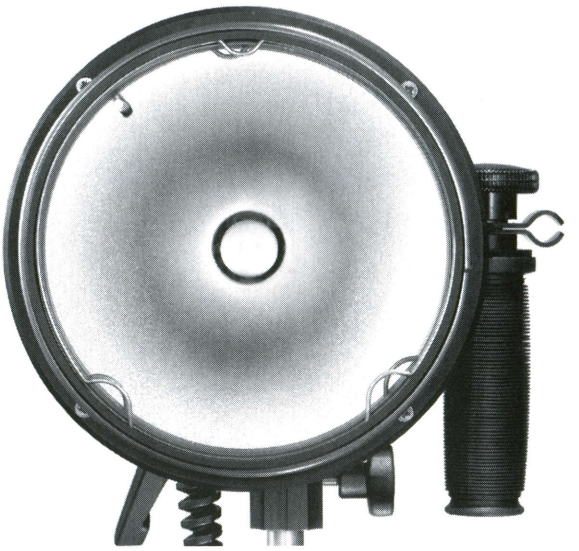

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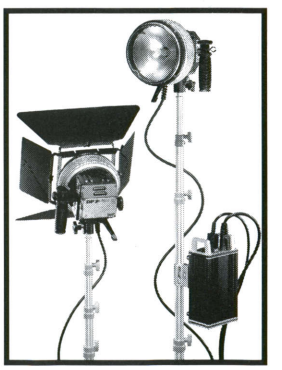

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DVD Playback

by Chris Pizzello

Fight Club
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After slipping *Fight Club* into the DVD player, the viewer is greeted with the usual copyright warning that stubbornly resists the fast-forward function. But it quickly becomes apparent that something is *off*. The screen flickers, and there seems to some sort of interference — suddenly the text has become a confrontational screed. It's a clever conceit: *Fight Club*'s resident anarchist, Tyler Durden (Brad Pitt), has gotten his greasy mitts on the DVD. It's also the perfect introduction to one of the most subversive films ever to be green-lit by a major Hollywood studio.

Fight Club is a strange brew: bone-crunchingly violent one minute, arty the next; blackly comedic yet deeply serious; chock-full of dangerously anti-social notions, but ultimately highly moral. Once the viewer gets past the initially dire prospect of repeated lectures by Pitt (admittedly spectacular as Durden) on How to Really Live, *Fight Club* looks like it might live up to its ambitious goal of becoming the seminal film about our deeply dysfunctional times.

At the very least, the film is a nonstop visual marvel that doesn't just reward but *requires* multiple viewings. Jeff Cronenweth's bruise-hued cinematography contrasts the dull, desaturated shades of narrator Jack's (Edward Norton) soulless corporate existence with the warm, almost sensual atmosphere of the subterranean fight clubs. Director David Fincher's visual storytelling has never been more kinetic — the sequence in which Durden's droogs threaten a police commissioner in a hotel restroom could be studied shot-by-shot in film school editing classes. Remote-control jockeys will have a lot of fun freeze-framing five different instances in the film in which Durden has been subliminally spliced into scenes (for just one frame) before his initial introduction.

Fight Club is packaged on two disks. The first features the movie (delivered in a lively, super-sharp transfer and punishing Dolby Digital 5.1 sound) plus separate commentaries by Fincher; Pitt, Norton and Helena Bonham Carter along with Fincher; screenwriter Jim Uhls with *Fight Club* author Chuck Palahniuk; and a host of crew members, including Cronenweth. All of the commentaries are worthy and interesting, but the writers deliver the most illuminating observations. *Fight Club* is a movie of provocative ideas, and who better to explain them than Palahniuk, the scribe who came up with this demented stew? He offers the rather unsettling information that much of the deviant behavior in the film is based on his real-life exploits with pals — which means there are G-rated films circulating out there spliced with single frames from porno films. Meanwhile, Norton and Pitt observe that whenever the film presents a product placement, violence is imminent.

The second disk offers an almost fetishistic amount of behind-the-scenes material. The most unique and interactive feature allows viewers to track how several scenes took shape by offering an on-screen comparison of the storyboards, Fincher's initial location scout and then the actual filming. Elsewhere, there are deleted scenes, in-depth explanations of special effects, full cast and crew bios, a discussion of the distinctive production design, and a surprisingly exhaustive look at the film's promotional campaign, which was probably too

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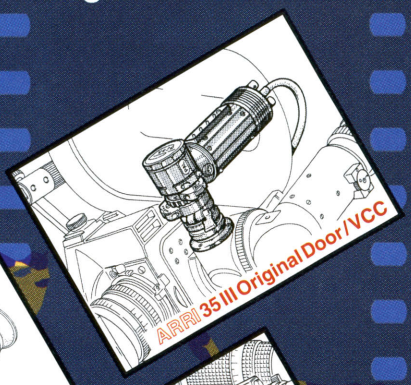

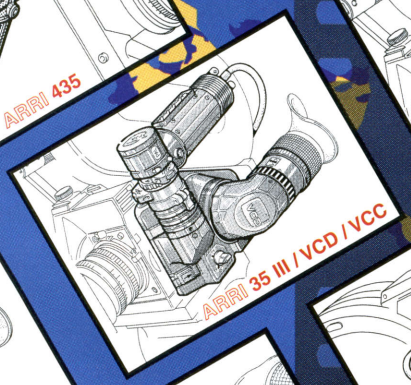

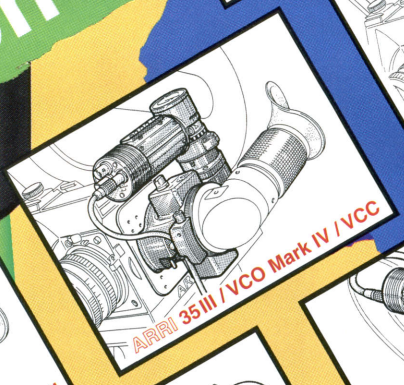

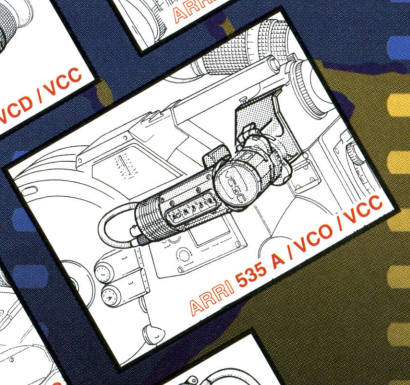

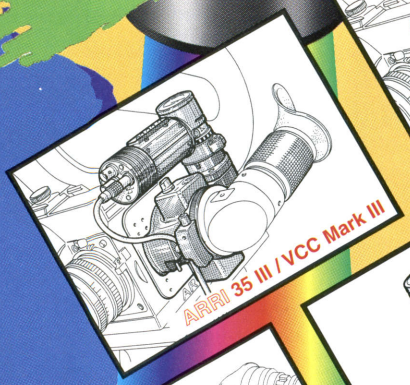

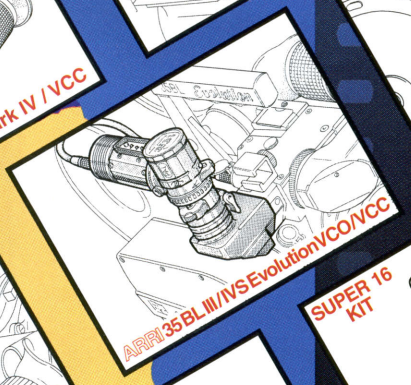

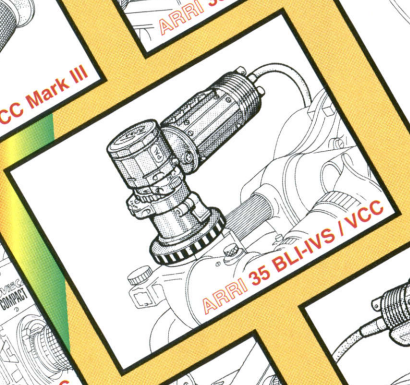

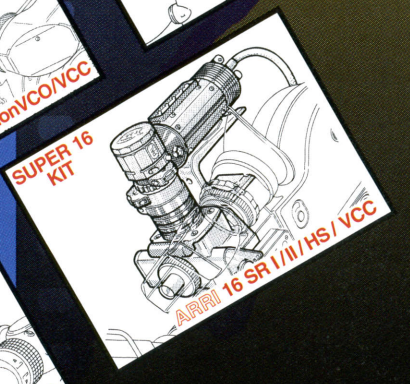

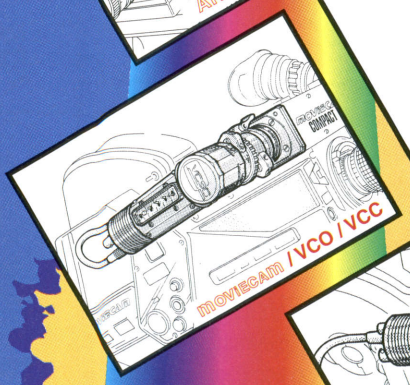

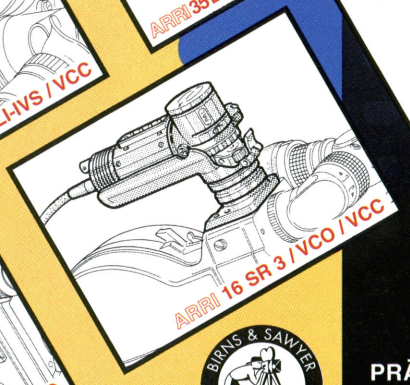

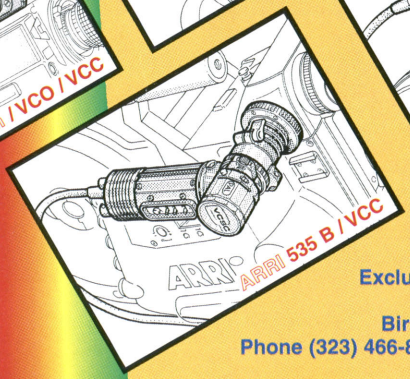

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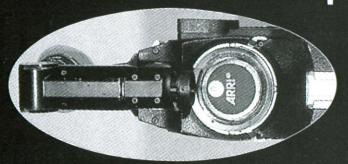

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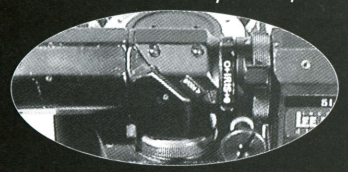

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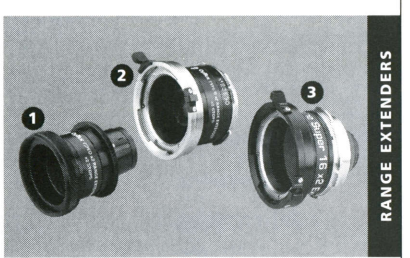

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sophisticated to connect with general audiences. Some of the trailers, press kit materials and Internet spots — intended to induce viewers to *pay* to see the movie — lampoon consumer culture even more impressively than the film itself. In the menu of this section, look for a hidden feature by hitting the downward direction arrow of your remote control: the viewer is given a tour of a highly sarcastic *Fight Club* collectible catalogue, which includes such items as a "2000 retro backpack," a "*Fight Club* adhesive bandage" and $40 T-shirts bearing self-consciously hip slogans.

Butch Cassidy and the Sundance Kid
2.35:1, Dolby Digital 2.0 Mono
20th Century Fox, $29.98

*"It was a helluva lot of hard work and even more fun, and if the audiences don't take to it, I think I'll go out of my f***ing mind."*
— director George Roy Hill

Fortunately, Hill's sanity was left intact, for upon its release in 1969, *Butch Cassidy* overcame a snooty critical reaction to make a profound connection with audiences. Despite a few slightly dated and corny moments, this is one of those warm entertainments that leaves the viewer faintly nostalgic about an era when Hollywood seemed to have a lot more heart. As the blueprint for subsequent buddy action flicks, *Butch Cassidy* still towers above its imitators because no other onscreen duo has ever equaled the effortless chemistry of Paul Newman and a then-obscure Robert Redford. Toss in a sharp screenwriter (William Goldman), an exacting director (Hill) and a go-for-broke cinematographer (Oscar winner Conrad Hall, ASC), and you have a seamless recipe for great, old-fashioned popcorn entertainment.

Of course, as this DVD suggests, *Butch Cassidy* isn't all popcorn. The ominous, mirage-like "super posse" that relentlessly pursues bankrobbing duo Butch and Sundance across the Old West is meant to represent a larger theme: the dawning of the 20th century and the unceremonious end of the Old Frontier's homespun ways. In his commentary, Hall suggests the film is more relevant now than ever, "because it's about people's jobs in jeopardy [due to] technological advancement... a basic, timeless human condition bigger than all of us."

Fox has done right by this classic, presenting Hall's gleaming images with great sharpness, lively colors and strong blacks; for proof, study the wry, sexy introduction of the relationship between Etta Place (Katharine Ross) and Sundance, which is tastefully photographed in deep shadow. It's a particular treat to see the film in its original 2.35:1 aspect ratio, preserving all of Hall's intricate, inventive compositions.

The supplements include a fine documentary on the making of the film, shot by associate producer Robert Crawford during the production. As the documentary's narrator, the straight-shootin' Hill is a real crack-up, lacing his insights into the director's process with brutal candor and the occasional, well-timed expletive. He also offers one of the most succinct explanations for how to balance the alternately comedic and dramatic tone of a film like *Butch Cassidy:* "You don't play *funny* or play *sad.* You play *real.*" Kudos to Fox for the documentary's chapter-selection feature, a luxury usually reserved for the film only.

Also included is a commentary by Hill, Hall, Crawford and song lyricist Hal David that is packed with great set stories. Hall, who was dating Ross during filming, chuckles as he recalls that Hill banished the actress from the set after the cinematographer allowed her to operate a camera during an action scene. Even more amusing is a drawn-out story by Crawford describing the testosterone-fueled gamesmanship between Redford and Hill that somehow culminated in a knock-down, drag-out *fencing match* between the soon-to-be matinee idol and ex-college fencer Crawford, who barely edged out Redford. Rounding out the special features are a breezy set of 1994 interviews with Newman, Redford, Ross, Goldman and composer Burt Bacharach. ■

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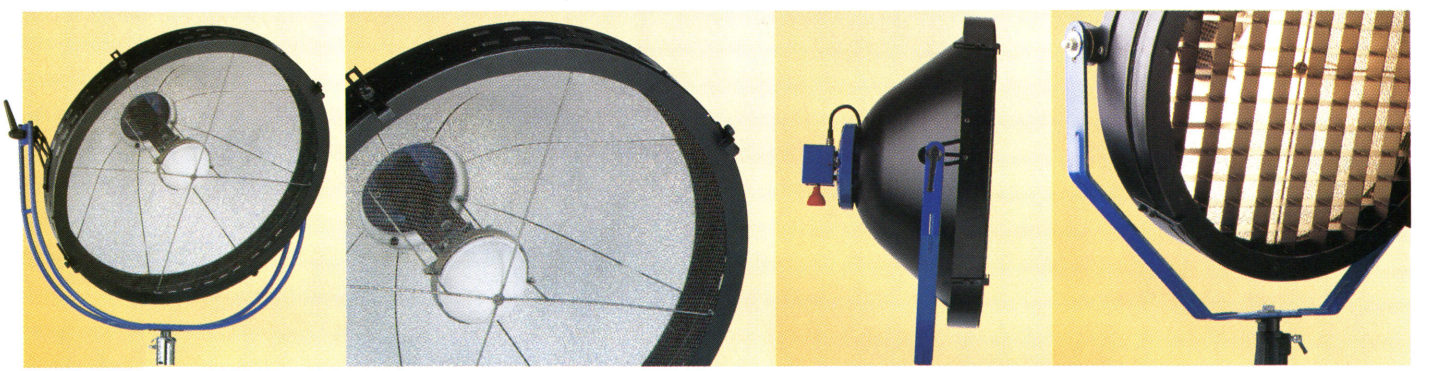

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Production Slate

Top: The crew prepares to shoot a sequence on the autobahn in Düsseldorf, Germany, for *Panorama Tour*. Behind the wheel is Glen Necessary, who did all the driving for the 70mm ride-simulation film, and next to the car are co-director Brent Loefke, left, and 1st AC Scott Smith. Bottom: The back seat of the camera car featured a pan-and-tilt mechanism, a video monitor and a speed/aperture control.

Iwerks in the Round

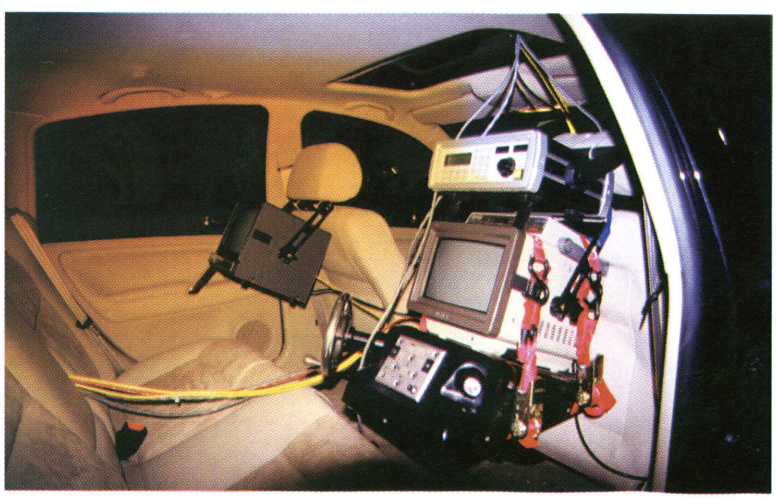
by Doug Yellin

Since leaving the world of mainstream features three years ago to join Iwerks Entertainment as a producer of specialty and large-format films, I've been having the time of my life. For one thing, as the digital world encroaches, these specialty projects remain almost entirely film-based. Your final product might be exhibited in video, but it's almost always shot on film. For another, the variety of formats in which you can work is amazingly varied, posing a continual learning challenge. I recently had the pleasure of producing two unique films for Volkswagen AutoStadt, the new corporate theme park that opened last June in Wolfsburg, Germany. *Panorama Tour* is a four-minute, 70mm, ride-simulation film that VW customers experience just prior to picking up their new autos at the Kunden Center. *The Secret of Safety* is a 12-minute, 360-degree circle film attraction.

One of the challenges of specialty filmmaking is the variety of clients with which you work. If made for an amusement park, *Panorama Tour* would have the vehicle speeding, running off the road and crashing into things; however, the client was an automobile company with a strong emphasis on safety. We had a mandate to follow all road laws. To showcase the product, we needed beauty shots of cars in stunning locations. Our job was to create excitement in a situation of more or less normal driving. Aerial cinematographer David Nowell switched from airplanes to autos for a while to be our cinematographer. The project's co-directors were Yas Takata, a ride-simulation specialist, and Brent Loefke, who has shot many car commercials.

We shot in several outdoor locations in Europe and North America, including the Düsseldorf autobahn, the Formula One Ring in Nuerberg and the Italian Alps site used during the 1956 Winter Olympics. Our U.S. locations were all in the west: Portland, Oregon; Monument Valley, Utah; Lake Powell, Arizona; and San Francisco, Los Angeles and San Diego.

Helicopter shots done at Mt.



Photos by David Nowell and Doug Yellin, courtesy of Iwerks Entertainment

visual cues in the frame — the horizon line is most important — to keep people grounded, give them context and prevent them from getting motion sickness. A lot of our sense of speed comes from peripheral vision. Takata and Nowell would frame a driving shot so the viewer would sense a lot of rushing ground beneath, and they kept objects swirling by on the periphery.

Motion has to be paced so that when the big jolts come, they mean something. The viewer's brain does most of the work in a motion film; our job is to supply good cues. You have to create visual suspense by foreshadowing movements. You don't just drop a viewer off a cliff. Instead, you create a situation in which he thinks, "We're heading for that cliff!" before you drop him. With proper foreshadowing, all he needs is a slight nudge from the motion base, and the mind takes over. Paul Pieper of Iwerks did the motion programming for the final film.

Large-format lenses are relatively slow and need plenty of light. We were shooting at 250 ASA and 500 ASA, most of the time around f5.6. Wide-angle shots work really well in this medium, and we were shooting mostly with a 40mm lens, occasionally using an 80mm and once or twice a 28mm. Depending on the setup, we used either 1,000' or 400' magazines of 8-perf film. One thousand feet gives you about five minutes.

There are so few 360-degree circle films made that every one is an experiment, and my other recent project was no exception. *The Secret of Safety*, made in association with Zurich-based Condor Films and photographed in Iceland and Munich, was the first 360 circle film project for German cinematographer Charly Koschnick and director Dani Levy. But Iwerks's 360 cinematographer Gary Louzon had considerable experience, and I was fresh from *Berlin Symphony*, another 360 film that Iwerks produced for Sony Music Box in Berlin.

The crew used the eight-month preproduction period to learn about the process and how to use it. Levy would ask a question, and as he listened to the answer, his eyes would widen and he'd

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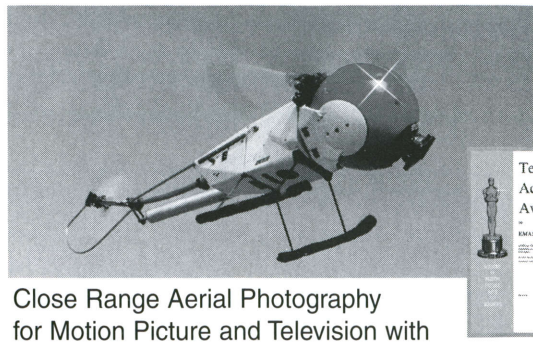

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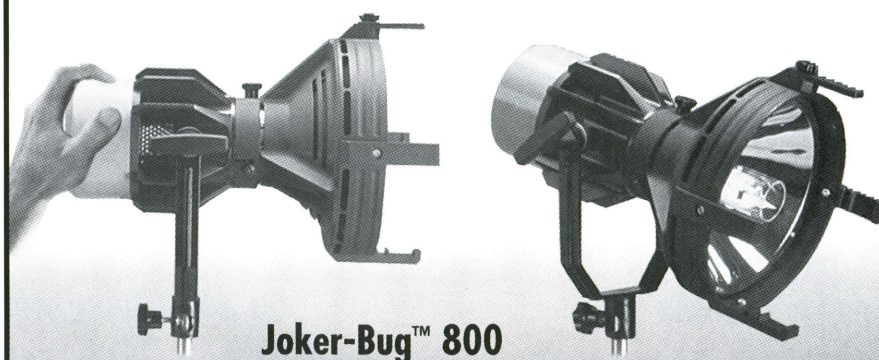

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Another sequence of the ride-simulation film was photographed in the Italian Alps. At left is renowned aerial cinematographer David Nowell, who came down to earth to photograph *Panorama Tour*, and kneeling is 1st AC Scott Smith.

go back and work on the script. Producer Kristian Widmer and I worked closely together to produce a live-action, dramatic mini-feature in the 360 format, a true-life tale told to a young girl by her grandfather.

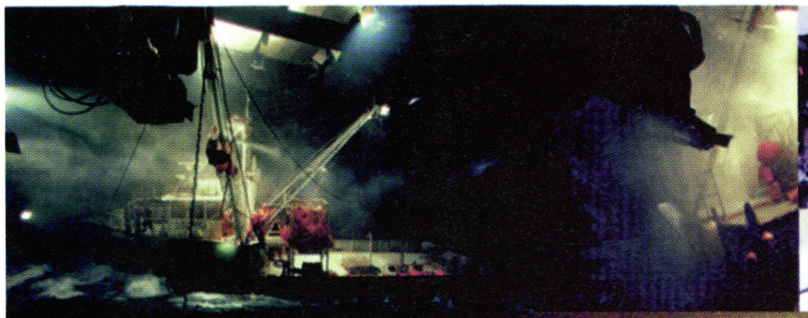
When you're working with nine cameras at once, you don't waste film. Just getting a slate and then stopping uses up 450' of film. The Iwerks 360 rig we used was developed by Don Iwerks and is a descendant of the original Circlevision rig he developed when he was a supervisor in the machine shop at Disney Studios. The cameras, electronically synchronized, shoot straight up into nine mirrors, capturing the image at a 90-degree angle. The mirrors enable you to get a seamless image because you can align them in a way that you can't align the cameras. We outfitted it with Arri 3 cameras, which have a single claw pull-down, from Arri headquarters in Munich. The 32mm lenses are custom-made to be exactly the same. Each camera's field overlaps the next by a few degrees.

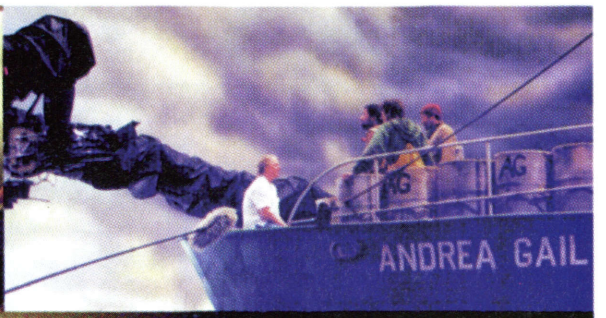
An inherent parallax comes into play with foreground/background action because each camera has its own center point. It shows up when all of your lenses are focused on something in the foreground, so you have to be judicious about where you place the action. Parallax in the background is minimal and often not discernible.

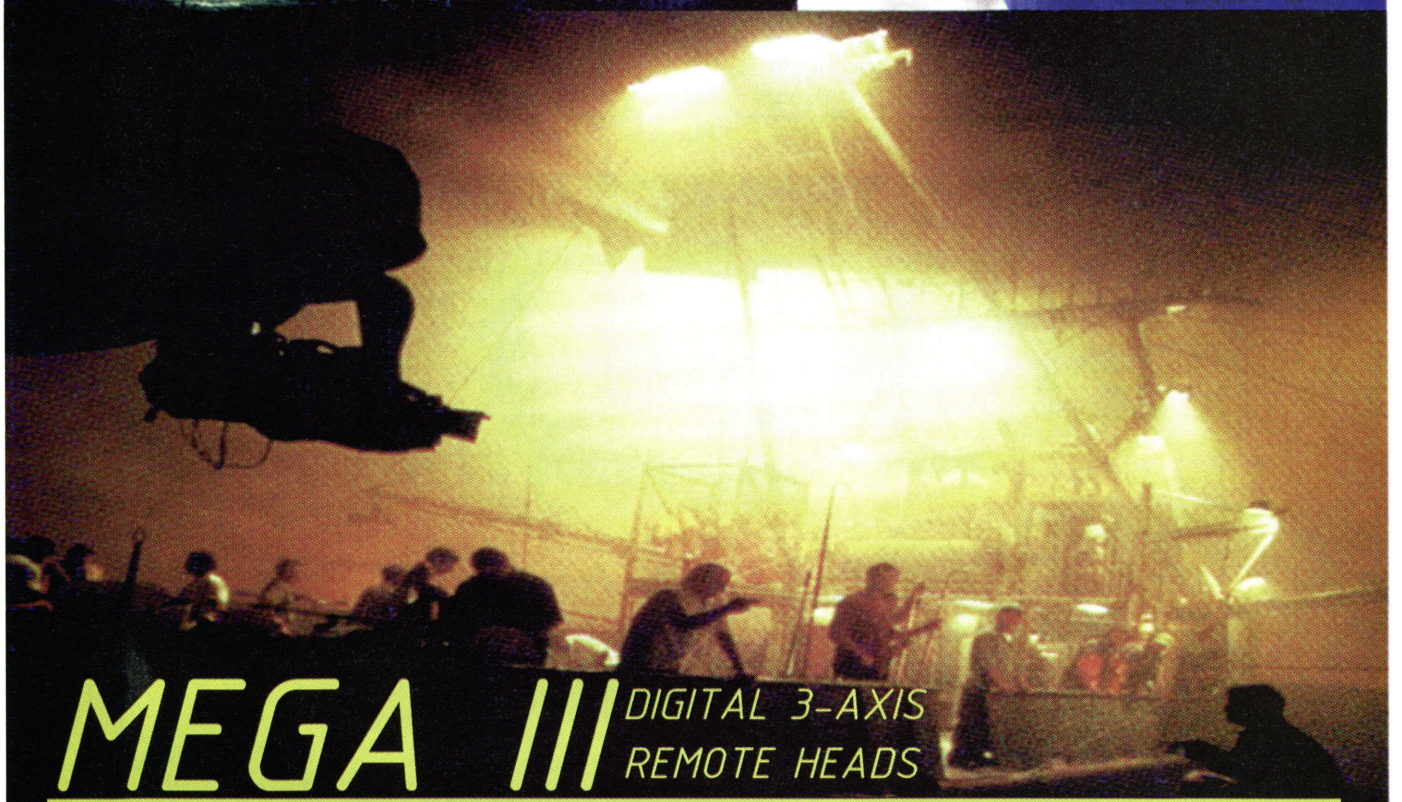
Staying out of your own picture is tough enough when filming in 8/70 for the flat screen. With a circle film and an outdoor location, there's almost nowhere to hide. On a barren plain in Iceland, the camera operator and crew have two choices: find a hill or lie on the ground. At times we had the rig, which weighs close to 700 pounds, on a Fisher 11 or a Panther dolly. Dolly grip Terry Wimmer spent a lot of time on the ground nudging it along. When we were ready to roll, camera assistant Scott Smith and Louzon put an eyepiece on each camera and checked for alignment; we would then monitor the shot with a video tap on three to five of the cameras.

Lighting has special limitations when you're shooting in 360. When shooting outdoors, the sun has to be high in the sky or hidden behind something. Fortunately, the sun shines 18 hours a day during the summer in Iceland, giving us lots of setup and breakdown time. Artificial light sources must be either close to the ground below the rig, or above it. The simple choice of using a polarizing filter becomes very complicated, because all must match exactly. Fortunately, we could fix discrepancies in video postproduction. The final release is in high-definition video — ideal for a nine-screen show, because in film you would need nine prints, all color-timed to match. But it is better to shoot 360 material on film, because electronic variations make it impossible to perfectly align nine video cameras.

The film includes several helicopter shots, and for these the rig hung below the helicopter as a jettisonable load. To preserve the rig, the 'copter needed to land on a landing table for







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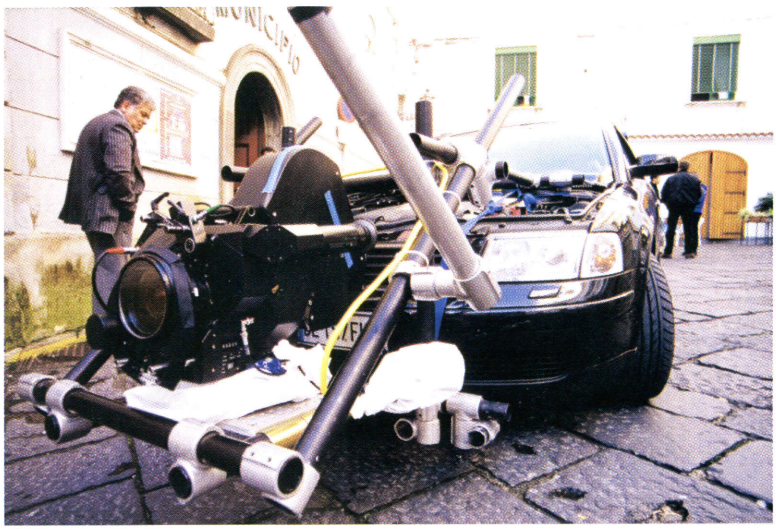

For a *Panorama Tour* sequence shot on the Amalfi coast near Naples, Italy, a custom mount was used to place the Iwerks 8-Perf/65mm camera on the front of a Volkswagen Passat.

Tamalpais (near San Francisco), Monument Valley and Lake Powell were created using a SpaceCam operated by remote control at 5-perf/65mm. One of the shots required a Tyler mount on the outside door, while the rest of the film was shot using an Iwerks 8-perf/65mm camera. The final release is projected in 5-perf/70mm, extracted from the larger frame. The extra perfs allowed us to readjust the frame in postproduction; it also keeps options open for an 8/70 version in the future, which is useful because Iwerks simulation theaters are all 5/70 or 8/70.

There are a lot of POV shots done from an automobile, for which we used custom car mounts built by key grip Hugh Byrne. Byrne has worked on a lot of car commercials, but I believe this was the first time he had to mount an 80-pound camera on a VW — in this case, a Passat wagon. For the opening shot, Byrne created a telescoping rig. The shot starts out in the back seat, looking over the driver's shoulder as the car travels at 70 m.p.h. on a slalom course and then moves forward, passing the driver and pushing out over the dashboard and the front of the car to get a clean POV shot. Our rig had a motorized truss usually used for rock 'n' roll stage lighting, and it protruded some 15'-20' from the back of the car. With the windshield and dome light removed, it fit perfectly with about ⅛" clearance. (Chopping off the roof wasn't an option.) The director and cinematographer were in the back seat, on either side of the rig.

Of course, the day we found ourselves driving in a hailstorm on the Nuerberg Ring, facing 30 m.p.h. winds with no windshield, the truss motor shorted out. Byrne grabbed a 70mm film can, and while we were in motion at 70 m.p.h., he improvised a hand-cranked pulley on the spot, which he operated from the back of the car. To do this, he had to wrap himself around the rig, squeezing into an impossibly small space between metal supports. He repaired the motor, but we used the hand-cranked shot in the final film.

The car was driven by Glen Necessary, a great and aptly named driver — on a film like this one, your driver is in a sense your camera operator. Necessary has set speed records at the Bonneville Salt Flats, but off the track, he obeys the traffic laws. His head is the driver's head that appears in the film.

The POV shots from the front of the car were captured with a pan-and-tilt head, allowing Nowell to anticipate the turns for the street driving shots and make them smoother. The more gradual transition works better cinematically and reduces the strobing that is always a big issue in large-format work. Nowell also used a speed/aperture control, allowing us to increase the sensation of speed. The film was shot for 30 fps projection, and sometimes we cranked down to 24 or 18 fps. This format lends itself well to accelerated speed, but again, strobing is a danger, so we had to be selective about using it.

The fact that the finished film will be experienced in tandem with moving seats colored everything we did. The client chose a six-axis motion base, and co-director Takata spent a lot of time studying its capabilities. He rode the base over and over, using a stopwatch to calculate how long it took to perform individual movements. He referred frequently to a special splitscreen video: one side of the image showed a pre-existing motion film, while the other side displayed the movement of the base for that film.

Certain characteristics common to all motion bases have to be taken into account at all times. We were shooting to create the illusion of travel within the physical limitations of motion simulation. The motion base doesn't actually go anywhere, and each movement has to be recovered from before it can be repeated. You can't, for example, turn right three times in a row. You have to maintain

loading and unloading the cameras, quite a feat in windy conditions. It was cheaper to fabricate new landing tables than to have them shipped, so we had them made at a grip house in Reykjavík.

A dramatic rescue scene in the film has one of the characters hanging from a rope bridge above a glacier floe. Our 700-pound rig was also being supported by that rope bridge, which we custom built for the set.

I think of 360 film as theater in the round, an architectural experience that interacts with the guest like a real-life environment. It merges sound and imagery like no other format. It wouldn't work as a silent format because sound cues alert the viewer where to look. The film plays in a 200-person, stand-up theater with 11 discrete channels of audio: one for each screen and two overhead. When a character walks from screen 1 to screen 7, for instance, the sound follows. Iwerks's Greg Meader supervised the postproduction audio, which was mixed first at Iwerks and then refined on site.

Photos by Pat Redmond, courtesy of Miramax Films

Adam (Stuart Townsend) and Lucy (Kate Hudson) are at the center of the Irish comedy *About Adam*.

An Irish Casanova
by Rachael K. Bosley

Irish director Gerard Stembridge hopes his new feature *About Adam* will not only change the way film audiences think about Irish cinema, but also help spark a new direction for filmmakers in his homeland. "The visual approach was very clear in my head," he recalls. "I didn't want the usual clichés of Irish cinema, which tends to look rather dreary, rainswept and beautiful in a rural

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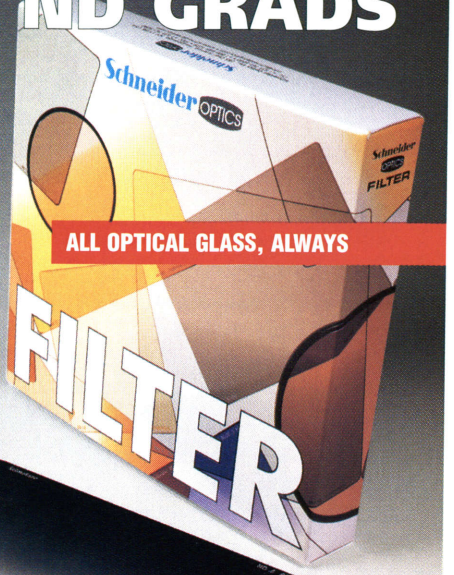

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sort of way. That's not where I live. I wanted a sophisticated sensibility, a certain glamour, a certain sexiness."

About Adam, a buoyant comedy that Stembridge wrote as well as directed, is set in Dublin and chronicles the impact that the handsome, charming Adam (Stuart Townsend) has on four siblings after he begins dating one of them. The spunky Lucy (Kate Hudson) appears to capture his heart early in the film, but when she brings him home to meet her family — the bookish Laura (Frances O'Connor), the unhappily married Alice (Charlotte Bradley), and the comically frustrated David (Alan Maher) — the amorphous Adam eventually finds a way to seduce them all. The audience finds this out gradually as the film shifts from one character's POV to another's, covering the same sequence of events four times.

Stembridge knew the right director of photography would be vital to achieving the color-crammed, vibrant film he wanted to make, and he met with several before choosing Bruno de Keyzer, BSC, whose feature credits include *Impromptu* (1991), *Little Dorrit* (1988), *The Passion of Beatrice* (1987) and *Round Midnight* (1986). The Paris-based cinematographer got his start as a camera assistant in the 1970s and worked as director of photography on commercials from 1978 to 1984, which he calls "a rich period of experience and training." Since director Bertrand Tavernier hired him to photograph *A Sunday in the Country* in 1984, he has worked principally in England and Ireland and on European co-productions. "I was actually not at all familiar with his work," Stembridge says. "We got along very well when we met, and I asked him if there was something of his he'd like me to see, but he said, 'Not really, because everything we do is different, depending on what is necessary for the film.' I liked that answer." For his part, de Keyzer says he was attracted to working with Stembridge "because he said he wanted to do something special and unusual. He said he was fed up with all the depressing Irish movies, that he wanted to make

Dublin look like a 'younger' city."

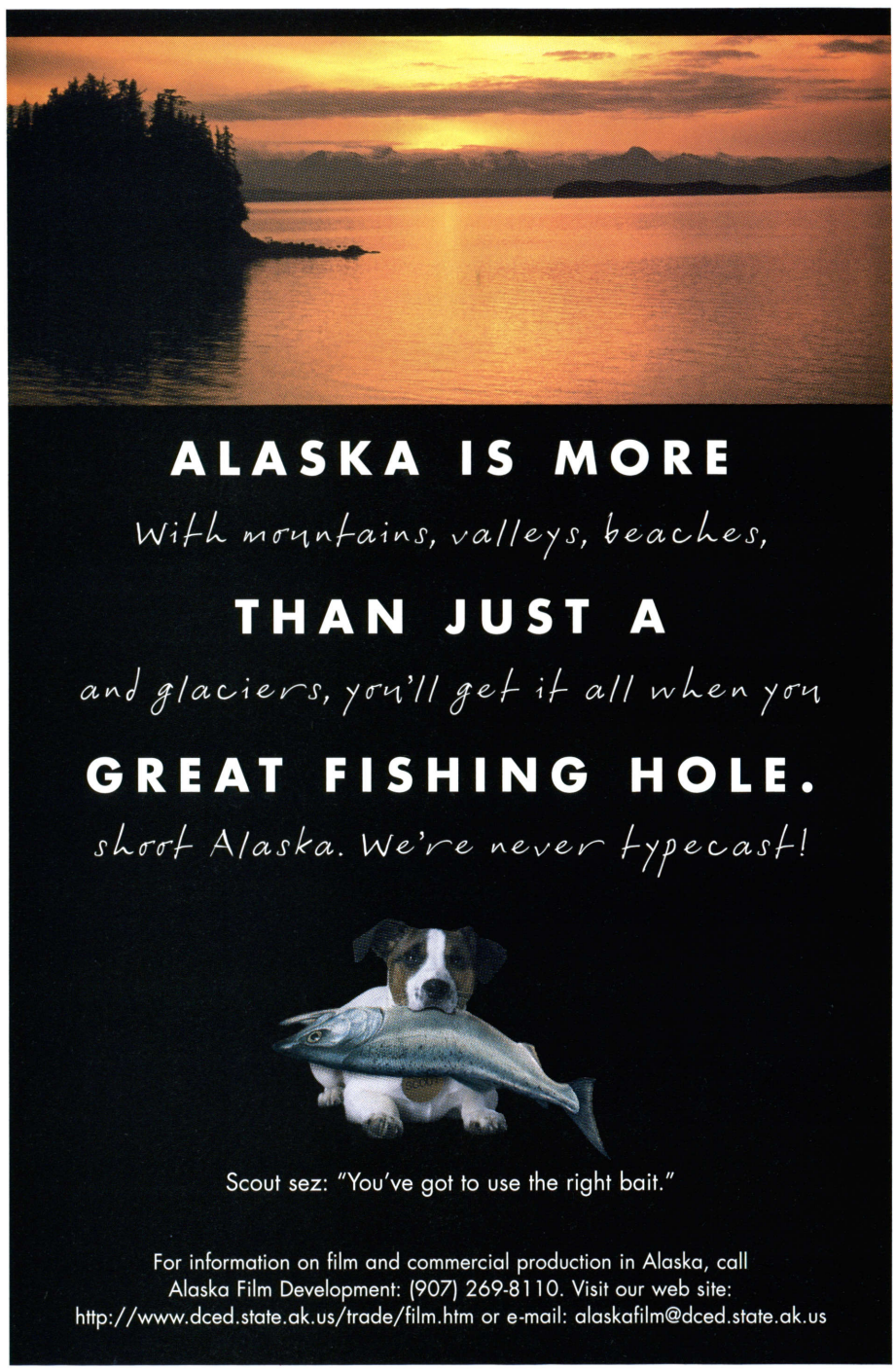
The cinematographer says he was also struck by the visual possibilities of the film's multiple points of view. He worked closely with Stembridge during three weeks of preproduction to determine how to present each character's perspective. "Gerry is an experienced writer and could explain very clearly what he wanted," de Keyzer recalls. "We thought it would be interesting to find a different visual style for each point of view, and it was exciting to build the film with him in that respect."

Adam meets Lucy in a bustling restaurant, which sets a pattern for how Lucy is presented in the rest of the film — she is almost always the center of attention in crowded settings. Laura, her intellectual sister, is generally photographed in cozier environs: at home, in her bedroom, and in libraries or bookshops. Alice, the eldest, is an elegant suburbanite trapped in an unhappy marriage, so she is typically isolated in lingering close-ups. David, who is somewhat overwhelmed by all of the women in his life — including his too-chaste girlfriend — is represented by what de Keyzer calls "an MTV style," reliant on Dutch horizons and fast-paced editing.

The film's title character, however, remains largely unknown. With the aggressive Lucy, Adam is shy and fairly quiet; with the romantic Laura, he alludes to a tortured, mysterious past; with the often-ignored Alice, he is a fount of compliments, and with David, he offers the kind of confidence-bolstering, brotherly advice David has never received. "We don't know a lot about Adam; he's an abstract character," de Keyzer says. "At the end of the film, we still don't know anything about him."

About Adam was shot entirely on location in Dublin over seven weeks in the spring of 1999. De Keyzer chose a Panavision Platinum for his A camera and a Panavision Gold II for his B camera, and he used a series of Prime lenses and 4:1 and 11:1 Primo zooms. He relied on Kodak Vision 250D 5246, noting, "I've been a faithful Kodak user for 30 years."

Stembridge praises de Keyzer effusively for his ability to adapt to the film's varied locations, which include a cramped bookshop cafe, a shopping mall, a fitness club, a city rooftop and Adam's Zen-like loft. "We had a lot of sound problems with city noise," Stembridge recalls. "It was a very busy time for local builders, and Bruno was working in some very confined situations." One such setting was the library where Adam and Laura's relationship kindles, which was actually shot on the second floor of a building in the very busy Temple Bar area of Dublin. "Because of local laws, we couldn't light through the windows," recalls gaffer Tony Devlin. "Everything was lit from inside; we rigged small lights in the ceiling, used false windows and crammed a lot of people into corners." De Keyzer recalls,



Adam and Laura (Frances O'Connor), frolic in his apartment. A TransLite transformed the first-floor location into a scenic loft.

"Gerry was in love with that location, and it would've taken a half day to pre-light it properly. So we used a documentary style and made use of what was there. I used a gallery to place four 6K Cinepars and reflect them off the ceiling, and I balanced the actors' faces with small incandescent sources to match the practical lamps of the set. We were able to shoot the two library scenes in a few hours. Lighting needs to be *right,* not necessarily sophisticated."

The cinematographer maintains that the scenes set in Adam's spacious loft were the most difficult to get right. "We needed to shoot there during both day and night, and the apartment Gerry liked was actually on the first floor and had a very gloomy, awful view," he details. "We found a roof with the right point of view, then took a picture of the city from there during the day and made a TransLite out of it. We built a big, black box to go behind it and lit through that for the nighttime scenes — shooting as you would on a stage, with the background a bit out of focus." Devlin notes that the terrain behind the apartment was hilly, which made setting up the 20'-30' platforms for the tungsten lighting no small feat. "It was quite a difficult scene to light, actually, particularly because there was very low-key lighting [including candlelight] inside," Devlin recalls. "We used a lot of flagging [on the TransLite]."

About Adam is the latest of

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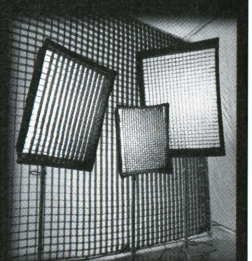

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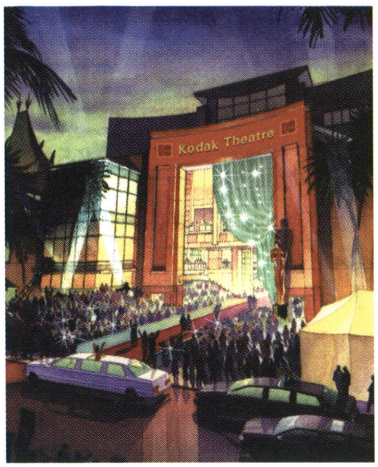
several features de Keyzer has shot in Ireland. ("Now they call me O'Keyzer," he notes with a laugh.) The cinematographer believes that working steadily in Europe prepared him well for the experience: "In Europe, you don't often have the time and money to do things repeatedly. You have to be very clever and make the right choice the first time."

Picture This

Expanding its already indelible role in motion-picture history, Eastman Kodak Co. announced in July that it will pay $75 million to have the showcase theater at the heart of the highly anticipated Hollywood & Highland entertainment complex named in honor of the company. The 3,300-seat Kodak Theatre will be the new home of the Academy Awards ceremony beginning in 2002; it will also be utilized for major concerts, musical and dance productions, and variety shows.

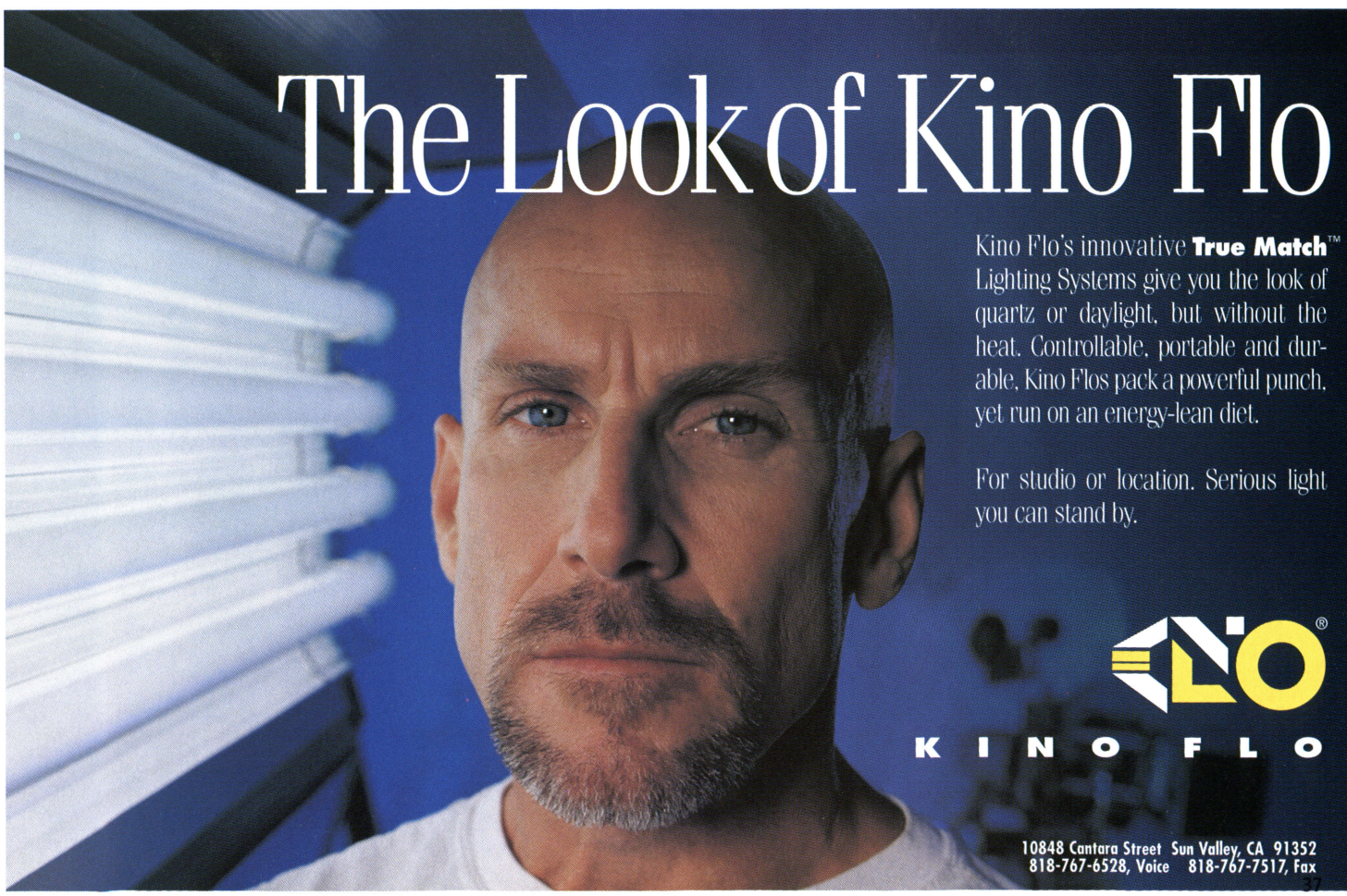


Images courtesy of Eastman Kodak Company

Kodak's partnership with TrizecHahn Development Corp., which is responsible for building the retail entertainment complex, is the first of what are expected to be numerous, prominent corporate sponsorships for the Hollywood & Highland project. "The naming of the Kodak Theatre is one of the most significant non-sports corporate sponsorships in history," says Lee Wagman, president of TrizecHahn. "The theater will be the cornerstone of the complex, which we expect to become the living, breathing heartbeat of the entertainment industry. One of our goals is [to make sure] Hollywood & Highland is valued equally by locals and tourists."

Also included in the $567 million project are a 640-room Renaissance by Marriott hotel (which is expected to open in winter 2001); a 2,000-seat multiplex

Pictured at left is an artist's rendering of the Kodak Theatre, the future home of the Academy Awards. Next to it is the structure circa July 2000.



cinema; broadcast and studio facilities; a grand ballroom that will offer the services of renowned chef Wolfgang Puck; a variety of shops and restaurants; and a parking structure that will accommodate 3,000 cars. A station for Metro Rail's red line, which links Hollywood to downtown Los Angeles and North Hollywood, is already open at the location.

Joerg Agin, president of entertainment imaging for Kodak, notes, "Kodak is pictures, and the Academy Awards honor the best pictures. But beyond that ... the millions of visitors who come here each year will find some of the most advanced technology and most innovative products and services Kodak has to offer. Plus, we expect it to become one of the most photographed locations in Hollywood! All of that makes it the right 'fit' for the Kodak brand."

A well-established developer of retail centers in North America, TrizecHahn has created marketplaces such as Horton Plaza in San Diego, Valley Fair in Silicon Valley, Park Meadows in Colorado, and Bridgewater Commons outside of New York City.

Celebration of Widescreen

A tribute to cinematographer Conrad Hall, ASC and a special focus on Elvis Presley will be among the highlights at the sixth annual WideScreen Film Festival, which will run from September 20-24 at the Carpenter Performing Arts Center at California State University, Long Beach. Hall, who has been nominated for nine Academy Awards and won two (for *American Beauty* and *Butch Cassidy and the Sundance Kid*), will be honored on the festival's closing night with screenings of *In Cold Blood* and *Butch Cassidy*.

A special edition of Presley's 1971 concert film *Elvis, That's the Way It Is*, which has been completely re-edited using original footage of the singer's famous 1970 Las Vegas concerts, will be screened on Sept. 22. Commissioned by Turner Entertainment Company, the film features many of the same performances featured in the original version, as well as Cinemascope concert footage and behind-the-scenes footage that were culled from more than 50,000' of original negative and 12 original 16-track audio masters, all recently discovered. The focus on Presley will continue that evening with screenings of *Bye Bye Birdie* and *Viva Las Vegas*.

The festival will open Sept. 20 with a screening of a new print of *The Bridge on the River Kwai*, which won seven Academy Awards. Subsequent screenings will include *Blue Velvet, The Elephant Man, The Diary of Anne Frank, Swiss Family Robinson, Blazing Saddles, Cheyenne Autumn* and *Quji (Miracle)*, an action comedy written and directed by and starring Jackie Chan.

For more information on the festival, call (562) 985-7000. ■

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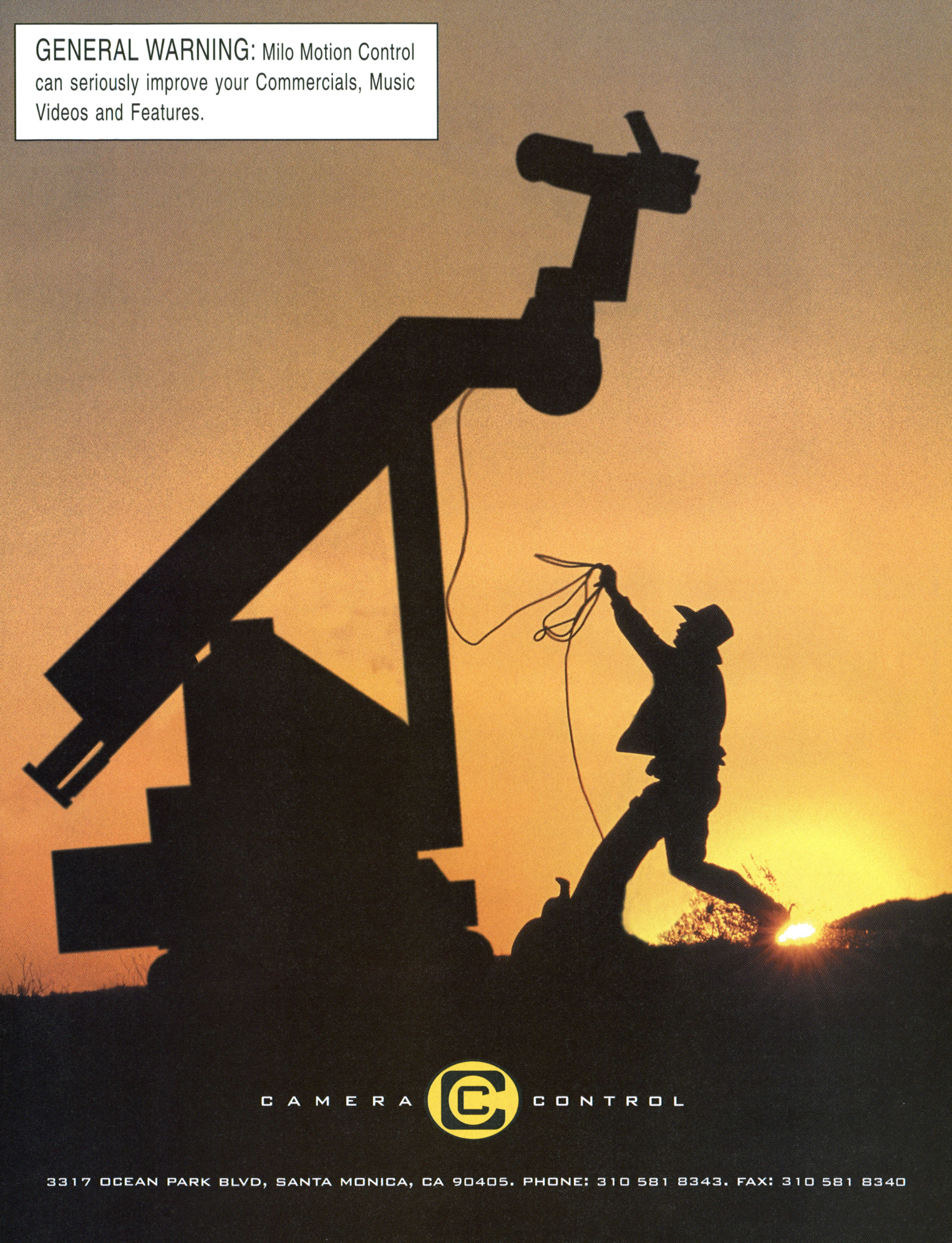
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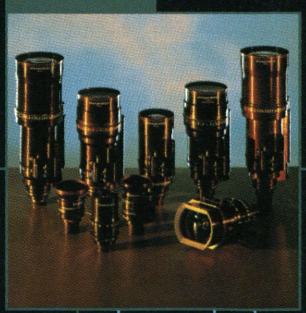

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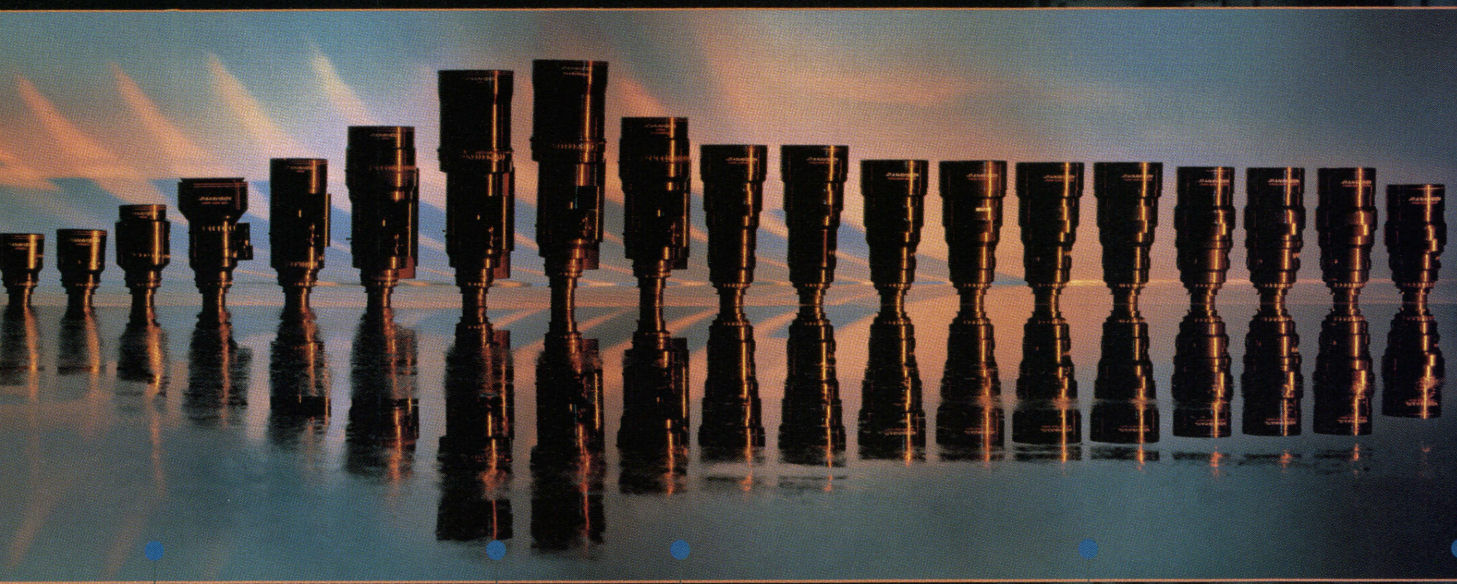

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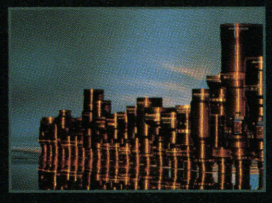

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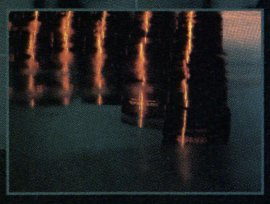

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Mind Games

Director Tarsem and cinematographer Paul Laufer lend a surrealistic edge to *The Cell*, a sci-fi thriller that delves into the twisted psyche of a serial killer.

by Jean Oppenheimer

Unit photography by L. Sebastian and Val Adamson

A disturbing and macabre science-fiction thriller, *The Cell* concerns psychologist Catherine Deane (Jennifer Lopez), who uses a dangerous new drug therapy to enter the mind of comatose serial killer Carl Stargher (Vincent D'Onofrio) in order to learn the location of his latest victim before the girl dies. In entering Stargher's nightmarish inner world, Catherine meets not only the monstrous adult killer he has become, but also his younger self, a frightened, sensitive, brutally abused boy who serves as her guide in the treacherous and unfamiliar surroundings.

The visual possibilities of the story are what attracted both cinematographer Paul Laufer and acclaimed commercial/music-video director Tarsem. The two men are frequent collaborators and have

become something of a legend in the commercial world; in fact, New York's Museum of Modern Art houses eight of their spots in its permanent collection. A South African native, Laufer worked briefly as a still photographer in Johannesburg before emigrating to the United States, where he attended The Art Center in Pasadena, California. He graduated just as MTV was getting off the ground and providing an entrée into the business for a generation of aspiring filmmakers. Laufer gradually worked his way up through the ranks in music videos. Around 1990, commercials were ready for a fresh look, and advertising producers began hiring people from music videos; many directors crossed over and took their cameramen with them.

The Cell marks Laufer's second feature (after *Frankie Starlight*), and he envisaged two distinct looks for the film: the real world and the inner worlds of the characters, referred to as "the worlds" or "the entries." These inner worlds included not only the heightened, surreal environment of Stargher's twisted psyche but also the feminine, nurturing landscape of Catherine's mind and the troubled unconscious of a comatose child named Edward.

Laufer wanted the real world to look as naturalistic as possible, explaining, "The real world creates the context that makes 'the worlds' themselves appear exceptional. In order to provide that contrast, I wanted the reality sections to look like any other detective or FBI movie you've ever seen." All of the film's environments tested the cameraman's ingenuity, as well as the resourcefulness of an exceptional rigging crew assembled under the direction of rigging gaffer Tom Nead and rigging grip Bob Leitelt. Laufer was effusive in his praise of the pair, describing them as "undaunted" in their willingness and ability to meet any challenge.

Opposite: Stargher in his den. After this scene was shot on film in Super 35, Toybox performed digital HD color-correction with the Philips Spirit DataCine, using Power Windows around actor Vincent D'Onofrio's face, adding an overall golden tone to his costume, crushing the blacks and flaring the highlights. The Toybox team then used its proprietary TIPS software to "up-rez" the imagery to 4K film resolution before applying an anamorphic squeeze to the image and employing an Arrilaser to film-record it out to a second-generation "original negative." This page, top: This setting, which combines Namibia and Catherine's World, went through the same process. After the color-correction was "baked into" the plate footage, Toybox added both real and CG cherry blossoms to the trees; used Maya to give the falling snow a sparkly, "magical" feel; and softened actress Jennifer Lopez's face to lend her features a dreamlike quality. This page, bottom: The young Stargher stands within Catherine's World. This shot, a four-layer composite, involved heavy color-correction in Spirit, along with the addition of CG snow, sparkles and glints.

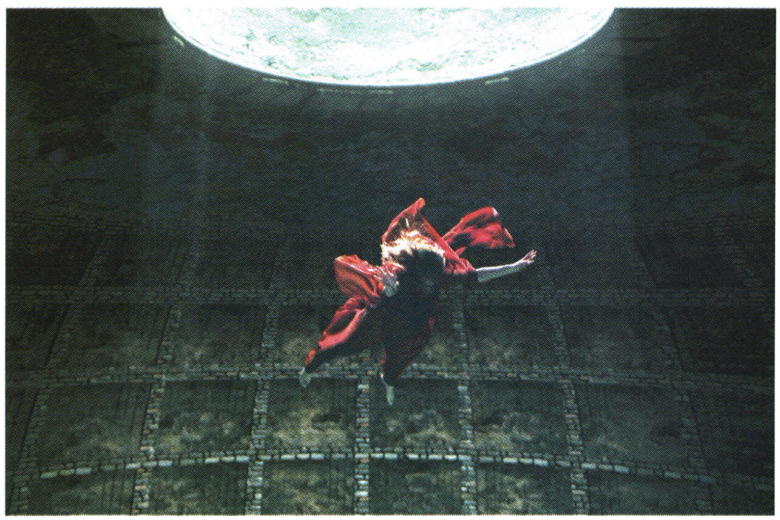
Perhaps the toughest obstacle they faced was lighting sets that, with few exceptions, had hard ceilings and were so big that they occupied nearly the entire stages on which they were built. (Every stage at the old Warner-Hollywood lot was used for the production.) The hard ceilings were suspended from the perms by aircraft cables, which were hung every six feet. Positioning lights in and around the cables was a difficult prospect, and cutting holes in the hard ceilings was generally not an option because they were too weak to support movie lights. "The cables really killed us," confirms gaffer George Ball, shaking his head. "Plus, we couldn't get in any cranes."

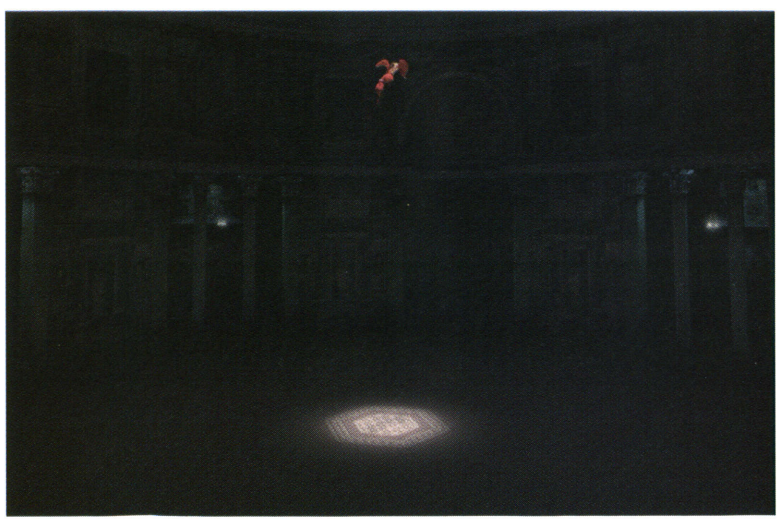
A scene inside the medical institute's conference room, where Catherine and her colleagues discuss whether to attempt the risky drug therapy, demonstrates both problems. The set consisted of a room some 12' high by 20' wide with a hard ceiling. The back wall of the conference room was glass and looked out onto an outdoor patio, which contained a rectangular reflecting pool. A TransLite was hung beyond the patio. The camera remained inside the conference room during the scene, with the glass wall and the patio clearly visible.

The scene was supposed to

Photos courtesy of New Line Cinema; digital composities courtesy of Toybox

Mind Games





Six months of painstaking digital work went into this shot of Catherine falling through the dome of the Roman Pantheon. During principal photography, a stunt double wearing a hip-rig equipped with wires was shot against bluescreen. The wires were later removed digitally at Toybox, where Tarsem, production designer Tom Foden, visual effects supervisor Kevin Tod Haug and Toybox visual effects supervisor Dennis Berardi and animation director Colin Cunningham collaborated to create an impressive, photo-realistic and entirely computer-generated depiction of the actual Pantheon.

take place on a bright, sunlit day, but finding a place to put a sun source was tricky. The patio extended to within 10 feet of the north stage wall, but because four feet had to be kept clear as a fire lane, there were really only six feet of usable space. The TransLite was so close to the patio that there was no way to light it evenly, and trees had to be brought in to obscure it. "The one thing you need to create believable sunlight is distance," declares Laufer. "Being able to pick your direction is almost equally important. In both regards, we were severely limited."

Hanging lamps above the set was complicated by the aircraft cables that were holding up the conference-room ceiling. The stage floor didn't offer any relief because the east side of the set backed right up to the fire lane, while the west side stood a mere 10 feet from another, even bigger set. This second set, which also had a hard ceiling, was the institute's laboratory, where Catherine's drug therapy is conducted. There was no room for a crane anywhere on the stage. In the end, the electricians decided to build three trusses above the lab set. Ball explains, "Key grip Alan Rawlins and his guys had to hang the trusses from the perms on chain motors because we couldn't get lifts around." A couple of 20Ks were hung and directed at the patio as a sunlight source.

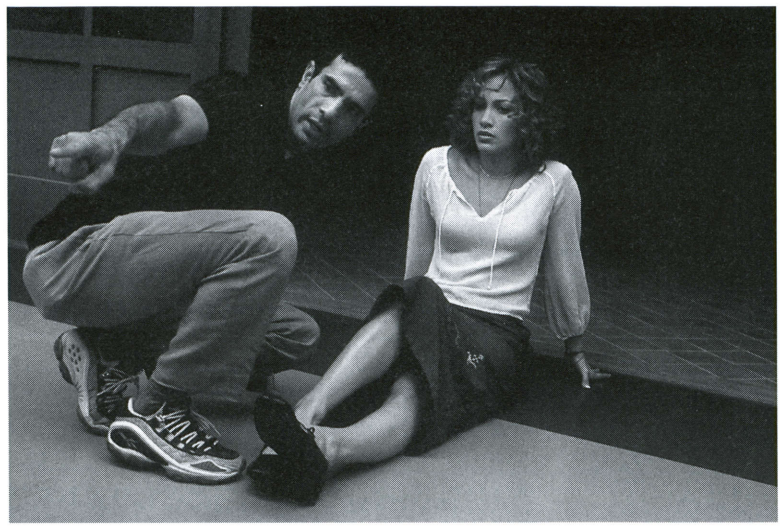
To brighten up the conference room, the grips cut a hole in the ceiling, which was too wide to support any kind of significant weight. A truss had to be built above the ceiling, amid the aircraft cables. Laufer recalls, "Any number of obstacles prevented us from working in an efficient manner." A silk for sky fill was suspended over the patio, with 60 space lights crowded above it and Skypans placed behind the TransLite. The space lights and the Skypans generated an enormous amount of heat, and in no time the temperature around the perms soared to 140 degrees. To alleviate the situation, an air-conditioning duct was positioned above the lights.

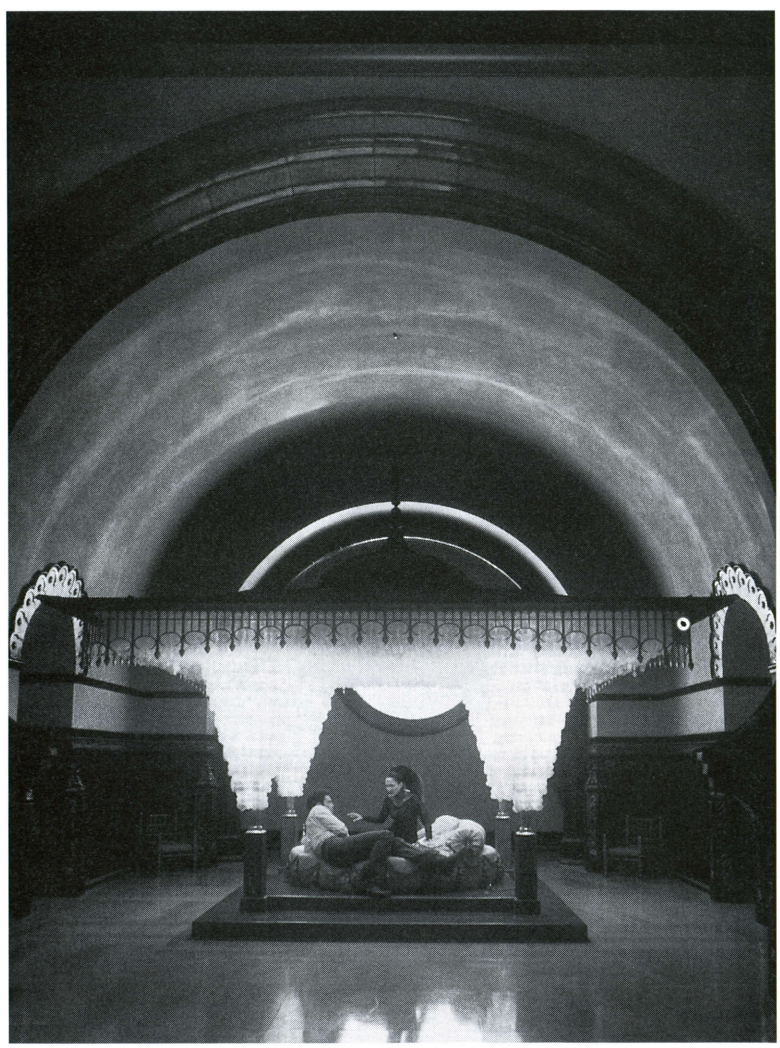
Three air-conditioning units were needed for the "horse room" scene, one of the most massive lighting setups in a film chock-full of

elaborate lighting designs. The scene finds Catherine on one of her journeys into Stargher's mind. She follows the younger Carl into a room where a horse is standing. Sensing danger, Carl pushes Catherine out of the way just as large panels of glass fall from the ceiling, vivisecting the horse into a dozen see-through blocks. These reveal the animal's still-working internal organs; his heart beats and his ears twitch (courtesy of some deft CGI work done at Buf in Paris).

Laufer wanted to bombard the set with light but also keep it very even and soft to achieve what he calls "a *2001* look and feel." It was one of the few sets that did not have a hard ceiling, and the cameraman took full advantage of it. "I wanted to work at T16, so we needed a lot of light," he says. "Sixty-five Mini-Brute nine-lights— almost 600 bulbs — were suspended nine feet above the actors' heads and put on dimmers to give me a richer color. I love having a big tungsten source or multiple tungsten sources dimmed down into a very warm range. A double silk was hung maybe four feet below the lights. I knew it would be like an oven in there, so we diverted the heat from the set with the air-conditioning ducts, which we slid between the two silks."

With the lighting in place, everything was set. But when the lights were finally switched on, almost 600 dimmed filaments started "singing" in unison — and the lower they were dimmed, the louder they got. Rigging gaffer Nead knew that the Warner-Hollywood lot maintained a DC generating plant that dated back to the 1930s. "It was like stepping back into the past," Laufer marvels. "It looked like a set from Frankenstein's laboratory, with huge dials and these amazing, pristine DC generators that were in perfect working order." DC current doesn't vibrate filament, so the electrical crew repatched the whole stage through the DC plant, running cable halfway across the lot to connect the stage to the plant. They had to lose the dimmers because there were no DC dimmer boards, but in the end, it didn't matter. "We had a walkie-talkie in the generator room, and the technician would run the gennies up and





Left: Tarsem works out a scene with Jennifer Lopez. Below: Dr. Deane attempts to seduce FBI agent Peter Novak (Vince Vaughn) in Stargher's den. This seemingly self-contained room was actually one leg of two wide hallways that intersected in the middle, forming a giant cross. Light for the scene was generated by Xenons aimed into a 10', front-surfaced mirror hung above a 6'-wide hole in the set's domed ceiling.

Mind Games

Two of Stargher's victims languish within the killer's baroque psychic torture chamber. The woman in the dentist's chair was lit from above with green bulbs, while the ballerina was suffused in a golden glow. A Hudson Sprayer filled with brown liquid was used to coat the glass windows of the victims' individual cells, obscuring the occupants until the camera cuts to the interiors.

down depending upon what my meter was reading," Laufer says. "It gave me beautiful, warm light *and* it was perfectly silent."

The Cell was shot in the Super 35 format, and Laufer decided to stick with one stock for the entire picture: Kodak's Vision 200T 5274. "I tested all of the available stocks, and it came down to 74 and 48," he remarks. "They are almost identical except that the 74 is half a stop faster [though Kodak rates the stock a full stop faster] and has truer color tracking in terms of under- and overexposure. Kodak had just come out with the new [lower-contrast] 74, and Don Henderson from Eastman made it possible for us to be one of the first movies to try it. 79 was used on occasion, but when the visual-effects unit had to push it a stop for Photosonics work, it was too much to ask for it to match the 74."

It is highly unusual to use more than one brand of camera package on a film, but Laufer did, opting to employ Panavision gear from Panavision Hollywood for the outdoor sequences and Arriflex from Otto Nemenz for the interiors. The reason? Lenses. The cinematographer tested Primos and Cooke S4 lenses against each other (the new Zeiss Ultra Primes weren't out yet), first on a stage and then outdoors in order to check them for flare. "What it came down to is that they treat the phenomenon known as Narcissus differently," he explains. "The light coming in through the lens hits the film, and while most of it is absorbed into the film to create the image, a certain amount reflects back and hits the back of the lens. Narcissus can create something like a flare; it's not really a flare, but [more of an image] that is moving in the opposite direction to a highlight. It happens with objects like headlights and sun flares.

"Primos are designed [to turn the flare] into a very clear, resolved image, while Cooke has taken the opposite approach and diffused it; with a Cooke lens [the flare] can turn into a slightly blue haze, or 'blooming,' especially wide open. If you aren't aware of it, it can contaminate your blacks. But it's not a matter of one approach being right and one being wrong. I simply preferred the way the Primos handled specular flare."

When it came to underexposures, however, Laufer chose the Cookes over the Primos. "Once you got to two and three stops under, the Cookes were performing two-thirds of a stop better than the Primos. Everything was much more three-dimensional and the colors were truer. Those distinct characteristics are probably due to the different coatings and to each lensmaker's approach to Narcissus."

Taking advantage of the shooting schedule, Laufer used the Primos for the first three weeks of the shoot and the last two weeks, all of which were day exteriors. He used the Cookes on the stages, where the light levels generally remained low and the aperture usually sat somewhere between a T2 and T2.8. Using the Primos outdoors also allowed him to utilize a 3:1 Primo 135-420mm T2.8 zoom as a variable prime in the African region of Namibia, where a dream sequence and couple of inner-world sequences were shot.

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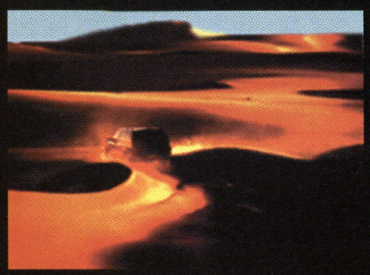

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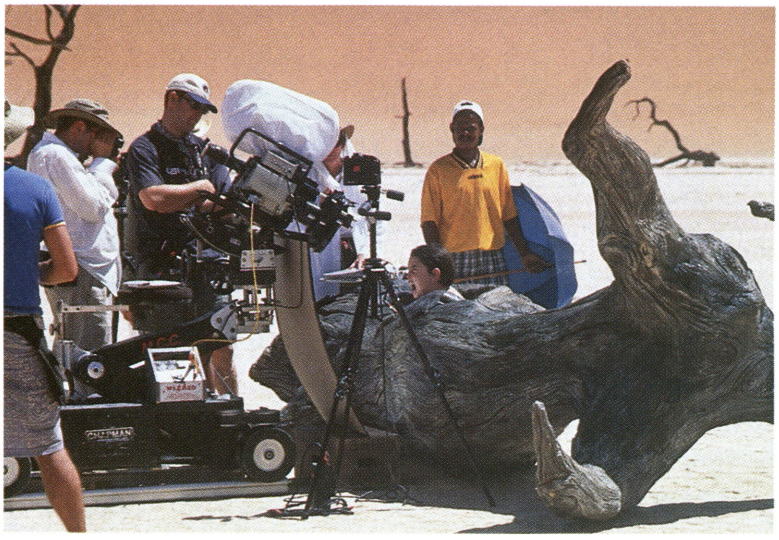
Mind Games

Cinematographer Paul Laufer (top photo, in white, and below) supervises photography on location in Namibia, Africa. Opposite page: A Libra head was mounted on both the nose of a Jet Ranger helicopter and the hood of an offroad truck to capture dynamic footage in Namibia.

The camera packages included a Platinum, a PanArri for the Primo-based sequences, and an Arriflex 535B and an Arri 435 for scenes photographed with the Cookes. Camera moves were fairly routine, with a few notable exceptions. The most arresting sequence is a home movie of Stargher as a young child being baptized in a pond. The scene was shot in two styles that were married in editing. Fine-arts photographer Cecil Cole used an underwater camera to make shots of the baptism from an underwater perspective, lending the sequence the feel of a distant memory. The show's



main unit used an "up-and-over rig" to boom in a perfect arc over a group standing in the pond, and the camera keeps shooting as it plunges into the water. "The part where we see a man's feet under the water is on a stage with somebody's feet in a tank and the camera on its side," Laufer reveals. "Then we bring the camera upright onto a tide pool, where Catherine is lying. It's actually a simple transition — no computer manipulation or any other tricks were involved."

On shots such as these, Laufer received help from a crack crew that included camera operator Tony Gaudioz, first assistant Don Burghardt, second assistant Brett Gates, loader Kate Santore, key grip Rawlins, gaffer Ball and riggers Nead and Leitelt. While there was no second unit on the film, there was a visual-effects team headed up by director of photography Dave Drzewiecki. Laufer also singled out Sara Romilly and Lauren Ritchie (New Line's postproduction supervisor and vice-president of visual effects, respectively) for their "incredible support," and timer Jim Passon and Ron Koch at Deluxe for their dedication to the project.

One of the film's most demanding shots involved helicopter footage taken in Namibia, where Laufer worked with his regular over-

seas camera crew (camera grip Gary Pocock, focus puller Colin Watkinson and second assistant Dan Holland). The scene starts on Catherine, sitting in bed in Los Angeles and watching television. The camera looks down at her hands holding a small pillow, then drifts over the folds of the blanket, which transform into the undulating sand dunes of Namibia. "It was a great technical challenge," Laufer remarks. "First we shot Jennifer sitting on her bed in a practical location in Los Angeles at T2 or T2.8. Then we shot an aerial plate in Namibia. Back in L.A., we re-created the shot of Jennifer's hands on a stage. We not only had to match the stage lighting with the earlier bedroom scene, but also the perspective of the blanket with the aerial view of the sand dunes.

"In order to get the same perspective, we had to be down among the blanket's folds, so we used a Kenworthy snorkel lens, which needs a stop of at least T8. I think I was working at a T16 in order to achieve the depth of field and get the performance out of the snorkel system. That meant we had to bring up the lighting values."

To get the aerial perspective of the sand dunes, Laufer strapped a Libra head onto the nose of a Jet Ranger helicopter. The rugged digital head, which won a Scientific and Engineering Award at this year's Academy Awards, is good for any kind of off-road work, but *The Cell* marked one of the first times the rig was used to capture aerial footage. "It can do motion-control and motion-capture, and if you want roll, pitch or pan-stabilization you just press a button," enthuses Laufer, who was able to mount the Libra head on the helicopter because it had been approved by the British Civil Aviation Authority. (FAA approval is still pending.)

The Cell moves from the sunny expanses of the African desert to the dingy, underground torture chamber where Stargher imprisons and kills his victims. The six women, bleached as white as snow and made up to look like kinky porcelain dolls, are posed in bizarre, sometimes contorted positions and displayed behind glass as though in a shop window. They are glimpsed only

briefly in the film, but the images are unusually potent.

Each victim got her own lighting treatment. "The [ambience] was incredibly moody," recalls gaffer Ball. "One room would be lit entirely with Kino Flos for a cool, white look; the next room would be all tungsten and color." A woman tied up in a dentist's chair was lit from above with green bulbs while a Kino glared up at her from below. Another, more pastoral setting was enveloped in daylight blue fluorescents. Behind a different window, a ballerina stands before an octagonal mirror, bathed in a golden glow. For one more grim tableau in which a girl, frozen to death, can be seen pushing a baby carriage, four softboxes, each containing nine 500-watt EAL bulbs, were hung above the action.

Various colored bulbs, ranging from standard 60- and 100-watt units to 300-, 500- and even 1000-watt fixtures, were all wired to dimmers. To color them, the crew dipped them in a dye solution made by Rosco; the dye was rated for 40-watt bulbs, however, so the crew had to take extensive safety precautions to use them at the high temperatures. A Hudson Sprayer filled with brown liquid was used to coat the glass windows of the victims' cells, so the viewer isn't really sure what he or she is looking at until the camera cuts to the interiors. "The [different scenarios] look really intriguing through the obscured glass," Laufer notes.

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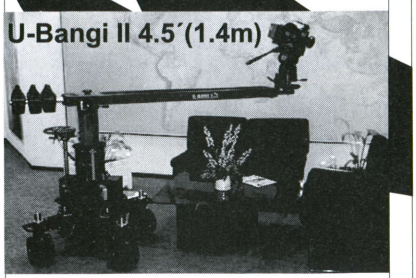

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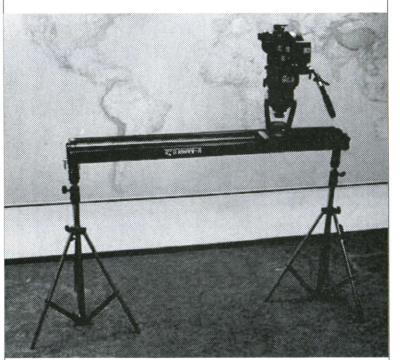

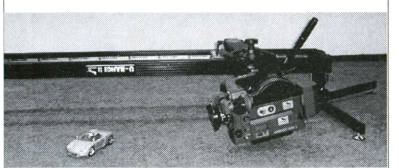

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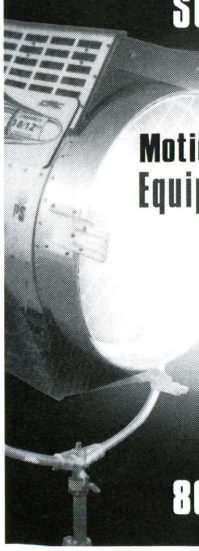

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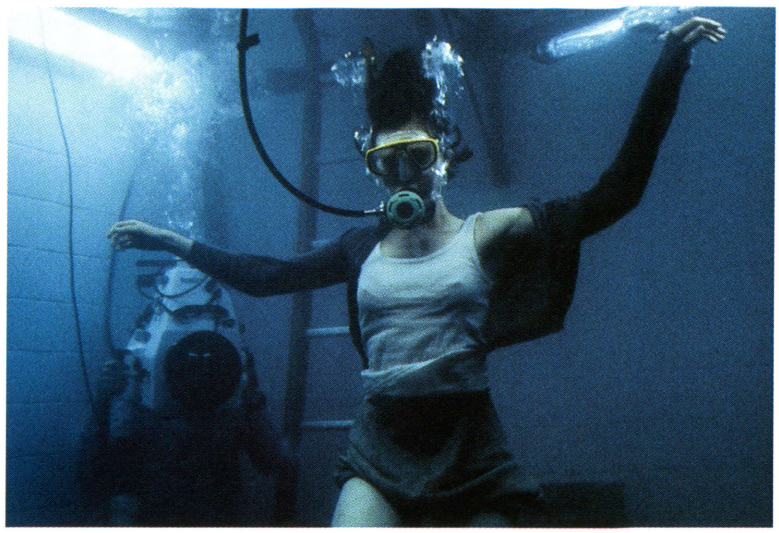

Actress Lopez takes the plunge for scenes in Stargher's drowning cell, which was lit with four 4-bank Hydroflex underwater fluorescent fixtures.

night exteriors (establishing shots of Catherine's house and Stargher's house, both practical locations), Laufer added a ½ Plus Green to a Fisher Moonlight hung over the structures. Designed to light cars, the Fisher is a large, rectangular softlight measuring 10' x 20' that comes with its own crane. Laufer's crew fitted the unit with daylight-balanced lamps, and the addition of the Plus Green gel lent those scenes a blue-green quality.

Another interesting real-world setting was the giant water tank in Stargher's underground bunker. This is the "cell" of the movie's title, where the madman puts his victims after they are kidnapped; the tank slowly fills up with water, and the victim drowns. Ball explains that these scenes were lit with four 4-bank Hydroflex underwater fluorescent fixtures rigged atop the tank on a pulley system, as well as a few stationary fluorescent bulbs in the tank. He adds, "The frame of the tank was metal, and Tom Nead came up with the idea of a magnet rig to which we could clamp the fluorescents."

Another memorable sequence is a seduction scene between Catherine and Peter Novak (Vince Vaughn), an FBI agent on Stargher's

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trail. Catherine is trapped inside the killer's mind when Novak enters it to try to rescue her. The sequence takes place in Stargher's den, in what looks to be a self-contained room but which actually is one leg of two wide hallways that intersect in the middle, forming a giant cross. A huge, dome-shaped ceiling covers the middle of the set — with a hole, some 6' in diameter, cut into the middle, directly above the center of the cross.

Laufer wanted a single, very bright source of light shining through the opening in the dome, but because the top of the dome almost touched the stage perms, there wasn't enough room to hang a light. "The only solution I could come up with was to shine Xenons into a 10-foot, front-surfaced mirror," he says. "By putting a front surface on the mirror, the glass doesn't heat up as much, which could lead to cracking." (As an added safety precaution for the actors performing underneath, chicken wire was spread across the dome opening. There was some speculation that the mesh might create patterns in the light, but it didn't.)

The specially built mirror was suspended from chain motors and inclined at an angle. Three 7K Xenons sat on the floor, focused straight into it. Although they were not used here to simulate sunlight, Laufer notes, "Xenons are an exceptionally good sun source, and they are much happier pointing up than down. Due to the design of the bulb, if you point them down the gases start swirling and you get a lot of flicker in the beam. If you need sunlight, which by definition is pointing down, you have to put in a mirror." The big disadvantage to a front-surfaced mirror is that without a protective coating it begins tarnishing and can't be cleaned. (While the main light source was the mirror, a few additional units — several 12K tungstens and Par cans — were used to light other areas of the set.) ➢

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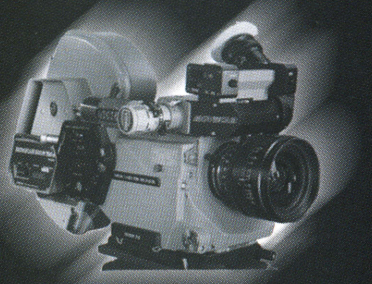

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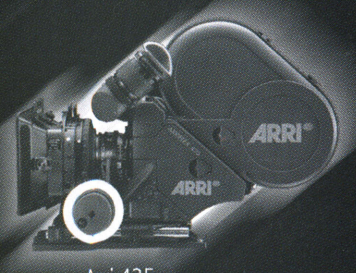

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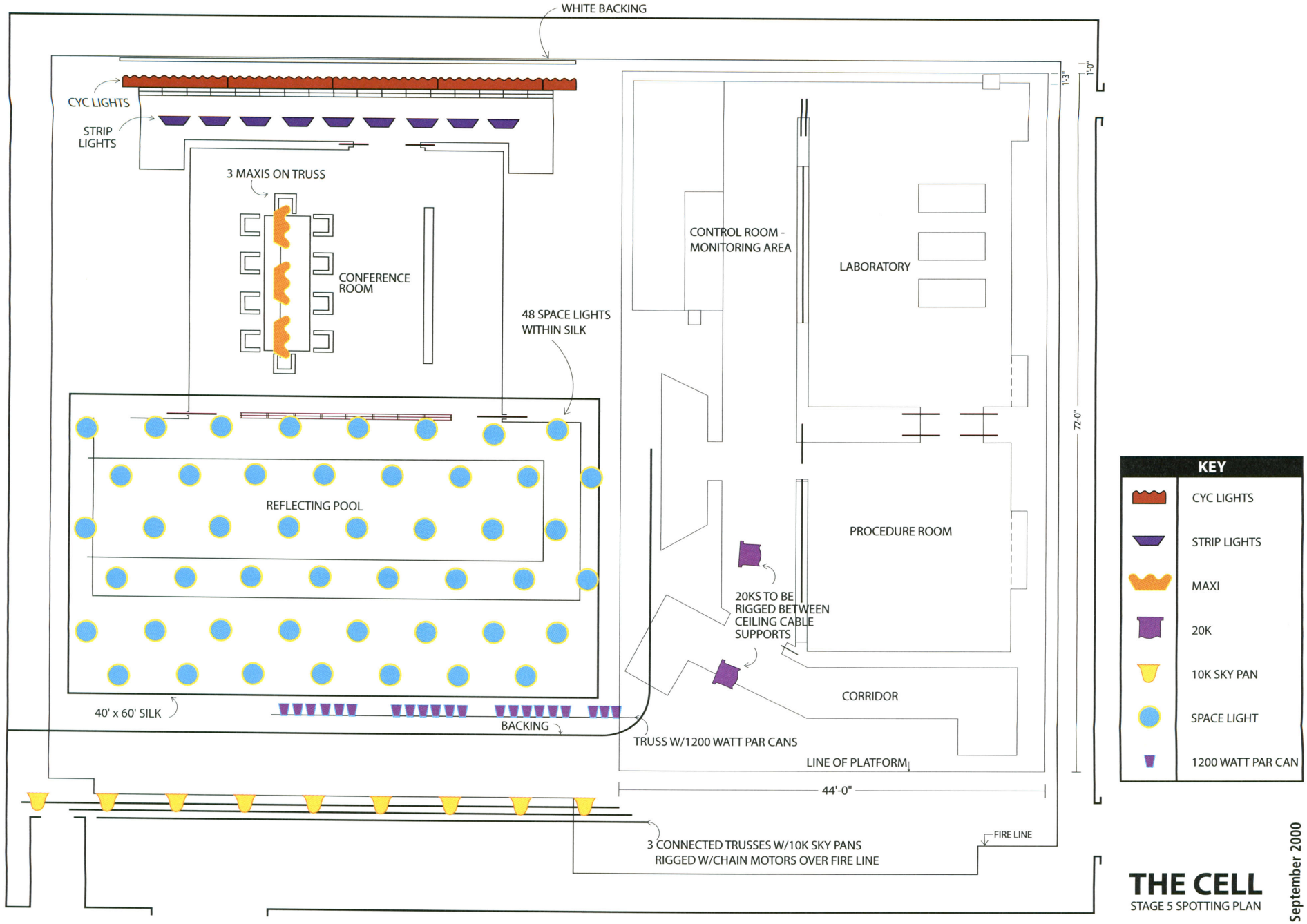

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Toybox visual effects supervisor Dennis Berardi (standing) and digital film supervisor Drake Conrad digitally retouch a shot of actress Jennifer Lopez. Toybox's artists digitized, color-corrected, effected and laser-recorded 50 minutes of *The Cell*.

TOYING WITH VISUALS IN POST

When cinematographer Paul Laufer began formulating his ideas for the look of *The Cell*, he was counting on postproduction technology to catch up with his ambitious visual concepts. His ideas centered around images that were impossible to achieve photographically — not because they demanded complicated visual effects, but because the colors and contrast levels he wanted could not be produced either in-camera or through any current laboratory processing technique.

"I wanted more control over the images than was afforded to me in the conventional film pipeline," says Laufer, whose background in commercials and music videos had already exposed him to the wonders of digital manipulation. The problem was that he had more than 30 minutes' worth of images he wanted to play with, and scanning that much film at full 2K or 4K resolution was both too expensive and too time-consuming. What he needed was a way to scan the footage in real-time at high resolution, color-correct it, alter the contrast, do some multiplane defocusing for one scene, and then record it all back to film.

Enter Toybox, the visual-effects division of Command Post & Transfer Corporation, a postproduction house specializing in visual and audio services. The facility promised Laufer a smooth solution, offering its proprietary tools and custom software in conjunction with newly developed high-definition (HD) equipment such as the Arrilaser film recorder and the D6 HD videotape recorder. As *The Cell*'s 14-week shooting schedule ticked by and postproduction began, however, technical wrinkles in the HD equipment still had not been ironed out. "We started this film very relaxed, but [at that point] we began sweating bullets," concedes Laufer. In the end, however, the filmmakers' faith was well-placed.

The amount of footage to be scanned for the film eventually grew to 50 minutes. Scanning has traditionally been done in the service of visual effects, and while Toybox handled more than 100 visual-effects shots for *The Cell*, the majority of its work was done strictly to affect the look of certain sequences — what Laufer and the film's visual-effects supervisor Kevin Tod Haug refer to as "look only" shots.

Laufer knew he'd be sacrificing a certain amount of resolution to the digital process, but he decided to take the hit "in order to get a far more interesting look. While HD represents a lower resolution [than 3K or 4K], it's high enough that you can cheat by 'up-rezzing' it — that is, you increase the resolution through digital tricks."

The scenes to be subjected to the digital process included all of the sequences set in the inner worlds of the characters, such as killer Carl Stargher's throne room and the den where Catherine (Jennifer Lopez) tries to seduce FBI agent Novak (Vince Vaughn). "The goal with all of these sequences was to instantly [place viewers] in another world without going too far, because [the filmmakers] still wanted to have a certain level of belief," explains Dennis Berardi, visual-effects supervisor for Toybox, which has offices in Toronto, Vancouver and Los Angeles.

Because director Tarsem and Laufer already enjoyed a long-standing relationship with founder/colorist Stefan Sonnenfeld of Company 3 in Santa Monica, the filmmakers chose to work with him first in standard NTSC video resolution to establish the look they wanted for the surrealistic sequences. Sonnenfeld then sent the original negative, the print and a digital Betacam copy of his color corrections up to Toronto, where Toybox senior colorist Gary Chuntz matched the look. "Stefan gave us his digital Betacam color reference, and we matched that at HD," recalls Drake Conrad, Toybox's digital-film supervisor. "From there, our proprietary TIPS [Toybox Image Processing System] came into play."

Conrad, who handled the HD transfer, explains, "The original camera negative is transferred to an uncompressed D6 tape format [in HD]. The images are then color-treated using a Pogle color-corrector, then up-rezzed to 4K through TIPS. Finally, it is recorded back to film using the Arrilaser." (For more about current digital-intermediate processes, see New Products, beginning on page 153.)

Adds Haug, "The Philips Spirit DataCine has been around for a few years — it's ubiquitous in commercials — but now it can do real-time transfers in HD and immediately lay the images off to an uncompressed D6 digital-tape format so that the transfer isn't tying up equipment for hours or days. In addition, filmmakers have access to all of the tools [featured on] the color corrector. That enabled us to play with the color correction — contrast, hue and saturation — as well as use power windows and do all of the things you can do in video, but technically not on film."

Berardi details some of the ways in which Laufer's direction during the Spirit transfer affected the film's look: "We custom color-

corrected people's faces, kicked out some of the specular highlights, and played with having some of the focus trail off. For example, on a close-up of Jennifer, we were able to pick an area of interest on the photographed frame, keep only that area in focus and have an extreme blur happen behind her head. She would come in and out of the focal plane, which was all image-processed."

Obtaining the look in the HD transfer proved relatively easy; the difficulties with the process cropped up at the other end. "The images looked great when they were output back to film," recalls Laufer. "Initially they were output flat, in normal 35mm, at which point an optical [2.35:1 extraction] was done for the [anamorphic] squeeze. There things fell apart. When the digital output was squeezed for the anamorphic print, the scenes went from being magical to being unacceptable. We therefore had to back up and find a way to avoid doing an optical [blow-up] of the digital output."

The post team wound up outputting the images to film already squeezed, at which point the problem became integrating them into the film. "These large, general-release films are printed on very high-speed printers on which you are not allowed to make any splices, timing changes or any A- and B-rolls," Laufer notes. "So once again, we had to back up. The final solution was doing two extra generations of contact-duping on the real-world sequences — in other words, I had to lose two generations on my real-world sequences. In doing extra contact steps in postproduction, you pick up contrast. At that point it became a contrast-control issue."

Filmmakers are always looking for ways to increase their creativity, and studios are always looking for ways to save money. For *The Cell*, Toybox and its Cinema HD offered both.

— Jean Oppenheimer

The seduction scene opens with Catherine reclining on a king-sized bed which is internally lit with dozens of 211 globes encased in round seashells, some woven into the canopy of the bed, others covering the bedposts. Suddenly, Stargher appears, grabs Novak, straps him onto a nearby table and proceeds to eviscerate him. It is one of the film's grisliest scenes, and Laufer purposely shot it overexposed to give it an unreal, almost silent-movie quality, which lets the audience know it is happening only in Novak's mind.

But overexposure alone can't account for Stargher's glittering, gold appearance or the scene's shimmering, surreal look. This was the result of a bleach-bypass print and a look that Laufer mapped out with colorist Stefan Sonnenfeld of Company 3. Sonnenfeld, with whom Laufer has a long-standing relationship, did straight-ahead transfers onto videotape, then sent the tapes to Toronto postproduction house Toybox, which matched his work in HD. (Toybox scanned and color-treated all of the film's inner-world segments of the film — see sidebar on facing page.)

Traditionally, scanning has been done for the purpose of creating visual effects (or to remove wires and fix scratches). *The Cell* was a different situation. "The majority of the footage we were scanning involved no visual effects and was done strictly to affect the look," states Laufer, who says he relied heavily on the expertise and knowledge of visual-effects supervisor Kevin Tod Haug, whose credits include *Fight Club* and *The Game.*

As for the bleach-bypass process, Laufer observes, "When people think [of special processes], they think of *Seven* [which was photographed by Darius Khondji, ASC, AFC and utilized Deluxe's CCE silver-retention process on a number of its prints — see "Soup du Jour," *AC* Nov. '98]. But for a different look

Mind Games

Within the depths of Stargher's demented mind, Dr. Deane witnesses the brutal vivisectioning of a horse. The animal's still-functioning internal organs were rendered digitally at Buf in Paris.

by the same cinematographer, watch *Delicatessen*. If you expose bleach-bypass normally — that is, if you expose the film and then you *skip* bleach [on the negative] — it will get dark. If you overexpose it, it will stay light but increase the contrast and change the colors, which to me is just as interesting a look." In this instance, Laufer didn't actually overexpose the negative because he performed the bypass at the print stage rather than on the original negative.

Some impressive CGI work, including the horse being sliced into see-through sections, was handled by the Paris postproduction house Buf. "Buf uses a kind of CG that's based on images," says Haug. "It's called Image-Based Modeling and Rendering. Buf requires lit still photographs — or sometimes live-action plates — to do the kind of modeling they do. They don't actually light the stuff; they render something that's already been lit by the cinematographer." Other scenes were

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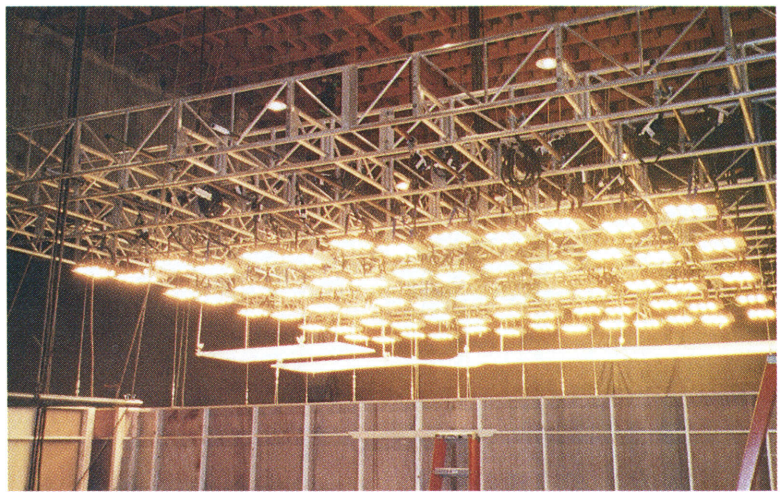
rendered in traditional 3-D CGI by Toybox, including a slow-motion sequence in which Catherine falls through a series of subterranean chambers.

Reflecting on the seismic changes that digital technology is bringing to the celluloid world, Laufer warns that the role of the cinematographer is changing. "The digital intermediate is coming. Right now we have the best of both worlds: we are originating and distributing on film, but the opportunity exists for a digital step in the middle. Soon, however, either the capturing or the distribution will become digital. I don't know which will happen first, but if it's the capturing, then the cinematographer's role will be entirely redefined. And I don't think that's good news."

Cooperation with the visual-effects world is crucial, not only to facilitate the filmmaking process but also to ensure that the director of photography remains in the loop. "The digital process needs the input of the director of photography at many points along its course," submits Laufer. "If you simply shoot the footage, walk away and then come back for the grading session, you've given up control of the look."



To lend the horse room what Laufer calls "a *2001* look and feel," Laufer suspended 65 dimmer-controlled Mini-Brute nine-lights nine feet above the actors' heads.

The cameraman's contract provided for only two paid days to grade *The Cell*, but in spite of that Laufer spent months of his own time working with Haug and the folks at both Toybox and Buf. "I felt privileged to do it," he insists. "Next time, I hope to be paid for it as well!" ■

A Pocket Full of Shells

Writer and first-time director Christopher McQuarrie teams up with cinematographer Dick Pope, BSC on *The Way of the Gun*, a philosophical shoot-'em-up triggered by an ill-conceived kidnapping.

by Douglas Bankston

Unit photography by John Baer

Hewing to his method of interweaving complex characters into even more complex situations, Oscar-winning screenwriter Christopher McQuarrie (*The Usual Suspects*) simply could not make an ordinary kidnapping the basis for his first directorial effort, *The Way of the Gun*. The thriller's labyrinthine plot revolves around a memorably offbeat cast of characters who include a passively menacing Southwestern multimillionaire, Mr. Chidduck (Scott Wilson), and his sexy, manipulative wife, Francesca (Kristin Lehman); a young pregnant woman (Juliette Lewis) with a naïve façade whom the Chidducks have hired to serve as a surrogate mother; two professionally precise bodyguards (Taye Diggs and Nicky Katt) assigned to protect and monitor the young girl; an obstetrician (Dylan Kussman) with a keen interest in the baby who discovers that he can never escape family ties; two opportunistic criminals, Longbaugh and Parker (Benicio Del Toro and Ryan Phillippe), in search of a bigger score; and a crew of aging bagmen led by the crafty and confident Sarno (James Caan).

When Longbaugh and Parker discover that the baby the surrogate mother is carrying could yield a sizable payday, they stage an impulsive kidnapping in broad daylight, outwitting and outgunning her bodyguards in the process. As the woman's due date draws precariously closer, however, the crime begins to unravel as all of the parties involved pursue their own agendas.

McQuarrie specifically penned *Gun* to be his first experience in the director's chair (see Q & A on page 64), and he'd hoped that his friend Roger Deakins, ASC, BSC would shoot the film. Scheduling conflicts prevented the teaming, but Deakins helpfully passed along the names of cinematographers he could recommend in his stead. Included on that list was Dick Pope, BSC, who had worked many times with award-winning British director Mike Leigh on such films as *Secrets and Lies* and, most recently, *Topsy-Turvy* (see *AC* March '99). After McQuarrie reexamined Pope's work, he brought him Stateside for what essentially turned into a location-scouting trip in downtown Salt Lake City and the surrounding desert. The new director quickly realized that he'd found the right hired gun for his "Western with cell phones," and Pope jumped at the chance to shoot a film outside his usual European realm.

"*The Way of The Gun* was a peach of a script," Pope enthuses. "It's quintessentially American, a contem-

Photos courtesy of Artisan Entertainment

porary Western thriller with electric dialogue. Every character follows a personal agenda, [and the story builds to] a murderous conflagration. I was very excited by the possibility of shooting a film that differed so radically from those I had previously photographed, one that presented me with a whole new set of visual challenges."

McQuarrie told Pope that he sought a look and style similar to that of the 1955 Western *Bad Day at Black Rock,* directed by John Sturges. "It was a film I knew very well," says Pope. "I watched it again with Chris when I got to Utah. The picture plays in a very quiet and understated way, with group shots and few [camera] moves; it's quite bereft of close-ups. It's very still, and you just watch all of the actors play off each other with very few cuts. I think that film was a great influence on Chris. [As a viewer,] sitting quietly in a room and watching what goes on makes it seem almost as if you are an unseen character observing it all. That style is actually very similar to my work with Mike Leigh, in terms of letting the scene play out and allowing the actors to do the moving. Chris also told me that he wanted the film to look like an old print of an early Technicolor movie that had become faded and desaturated."

Though there was discussion of utilizing some sort of silver-retention process such as bleach-bypass or ENR, it was ultimately decided that it would be best not to heap on the added expense and lose printing control in certain respects. Pope fully backed this dictum. "I thought that [the faded look] should be done in-camera, mostly so I could pitch the degree of the effect according to each scene," he states. "It makes it more exciting, really — a challenge. Bleach-bypass and accelerated-bypass are very well and good, but they are all or nothing — you can't really control those processes. In my opinion, day exteriors with hot skies done with bleach-bypass can be really problematic.

Opposite: Kidnappers Parker (Ryan Phillippe) and Longbaugh (Benicio Del Toro) conduct a room-by-room sweep of an old Mexican bordello as they prepare for the final showdown. This page: The imperturbable Mr. Chidduck contemplates the best way to retrieve his kidnapped unborn baby. Director of photography Dick Pope, BSC used additional practical lamps to cast reflections in the picture windows that would mask his movie lights.

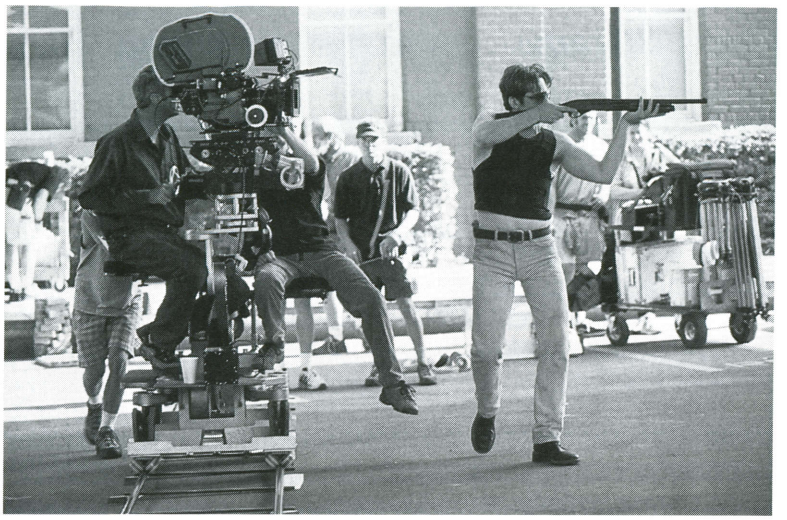
"[Chris and I] also talked about camera technique," he continues, "and we agreed that this film would play best in the straightforward 1.85:1 format without the use of slow-motion or Steadicam. It's not a landscape movie; it's about the characters within the film. Chris said he wanted to tell the tale simply with quietly understated images and realistic but stylized lighting."

To capture such a look, Pope selected familiar weapons, including two Moviecam Compact cameras and one SL lightweight. "The Moviecams are my favorite cameras," he attests. "We were crewed for two cameras, and we shot with two a lot of the time. Ian Fox, my operator, was on one, while I manned the other. We had a lot of action, gunplay and hits to cover, so two cameras, sometimes three, were essential. I hadn't worked with Ian before, but he turned out to have a very similar eye for composition. He proved himself to me in the first few days when he had to track right across one of the actors who was repeatedly firing a pump-action shotgun toward the camera at almost point-blank range. I watched the corner of his matte box, and it was rock-steady!"

As he had on *Topsy-Turvy*, Pope used Cooke S4 prime lenses and occasionally Cooke zooms. "This was my first feature film in America, and I was working at first with people I didn't know," the cinematographer points out. "I at least wanted the comfort of using equipment I knew and trusted."

To steer away from close-ups and tend more toward group compositions, 32mm, 40mm and 50mm lenses were predominantly used, and the cameramen rarely employed long lenses or wide angles. During the many times that multiple cameras were used, Pope kept the lenses on each camera as close to the same focal length as possible. "The 32mm, 40mm and 50mm strategy worked very well for most everything, even in small rooms," he notes. "That approach doesn't blow out rooms, and it gives you a normal perspective. If we had the 32mm on one camera, I was perhaps on the

A Pocket Full of Shells

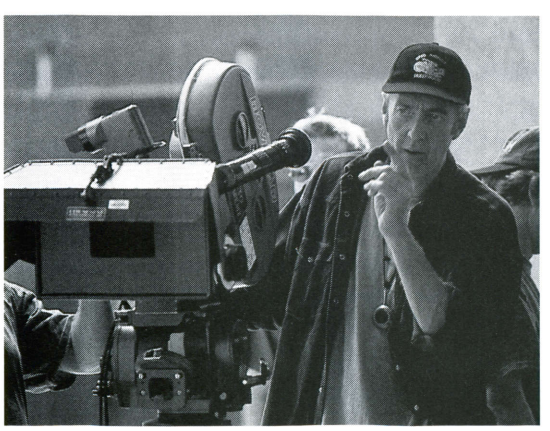


Right: Pope takes a turn behind the Moviecam while tracking with the shotgun-toting Del Toro. Below: With the camera cocked and ready to shoot, Pope sizes up his target.

40mm or a 50mm."

Pope shot with Kodak's Vision 200T 5274 and Vision 500T 5279 stocks. He rated both emulsions normally, though he tends to overexpose by about half a stop to "keep my printer lights up in the late 30s to early 40s. I like a heavier negative — you get better blacks with it. I exposed all of my night interior and exterior scenes between T2.8 and T4 to hold good depth of field, which was essential because some of those scenes featured most of the principal actors in the same frame. The first AC, Mike Lookinland, was consistently sharp with whatever stop or lens I threw at him, and equally importantly, he always chose the right person to [focus] on at the right time! For day work, I never stopped down more than T8."

Development took place at Deluxe laboratories in Los Angeles, with Mike Milliken handling the timing. The washed-out Technicolor look that McQuarrie sought was accomplished through a combination of lens filters that Pope discovered while conducting a series of interior and exterior photographic tests. By using an 81EF filter that provided only partial correction of the tungsten film, a certain amount of desaturation naturally occurred. When Pope combined the 81EF with a warming filter that leaned more toward yellow than red, the image began to look more like an aged print.



Aiding the effect was a muted color range of earth tones -- yellows, browns and subdued reds — chosen by production designer Maia Javan. "Maia was fantastic in that regard," says the cameraman. "She was always careful about what colors were chosen to stay within the color palette of the film."

In stark contrast to the dusty desert area was the Chidducks' cold and sterile house, a white-walled, concrete-and-glass tribute to brutal modernism. The house, a real location, had floor-to-ceiling windows from wall to wall in the living room. The numerous windows presented quite a puzzle, especially during the shooting of a night scene in which Mr. Chidduck coolly works out a plan for dealing with the kidnappers. "It was a murderous room to shoot in," Pope recalls. "Gaffer John Farr and I talked [extensively] about how we were going to light it. For instance, we lit a small Chinese lantern on a long lead pole and waved it around to see where we could get fixtures into the room. You could see that Chinese lantern from *every* angle! The only place you couldn't see it was if we placed it right down on the floor or hidden behind furniture or right up against the ceiling in the middle of the room."

To solve the dilemma, Pope ordered about four or five additional practical lamps. These would be placed in the room so that they would cast their own reflections in the windows and therefore confuse and disguise the reflections of the movie lights. "When I put in my own small Chinese lanterns on the floor," he details, "I would either mask or diffuse them on the side that was facing the window to try to cut the reflection down; those reflections therefore merged into the practical lamps' reflections so that you couldn't tell they were my lights. I put another, larger lantern right in the middle of the room against the ceiling; it contained a 2K bulb on a dimmer and had a skirt around it, so it threw a pool of light down and kept the illumination off the walls. I used that as my main source within the room. Most of the other fixtures, Kino Flos, were down low, hidden behind tables and lamps and kicking up the light as if it were coming from the practicals, which were also working for me in justifying the light that was hitting the actors in the room. I wanted them to *look* as if they were the sources, but of course, they obviously weren't."

This lighting style provided more of an omnipresent quality of light with a sense of heightened reality, as opposed to one motivated ➢

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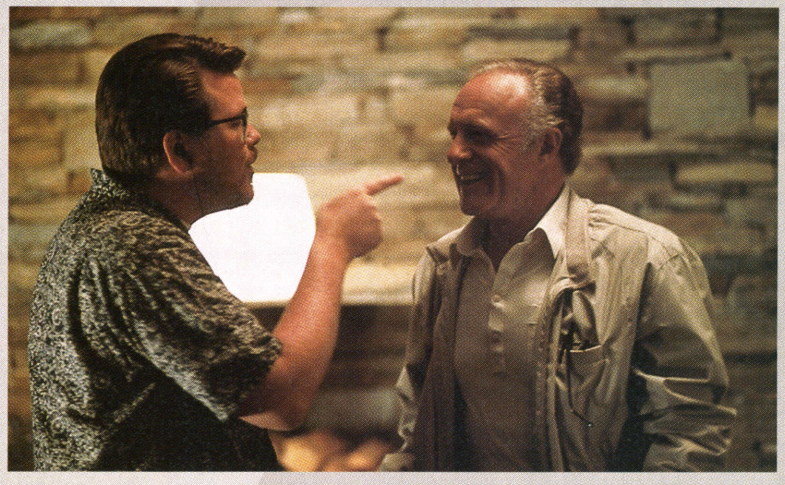
GRILLING THE PERPETRATOR

Interview by Douglas Bankston

In 1995, the mind-bending noir crime thriller *The Usual Suspects* posed this puzzling question: "Who *is* Keyser Soze?" Rife with countless twists and turns, the film earned writer Christopher McQuarrie an Academy Award for Best Original Screenplay. McQuarrie is currently is in the process of penning the feature adaptations of two great TV hits from the 1960s: *The Green Hornet* and *The Prisoner*.



A brave McQuarrie makes his point during a discussion with actor and onetime Corleone family member James Caan, who plays Sarno, the venerable leader of the bagmen.

Before putting pen to paper for those classics, however, McQuarrie donned a director's viewfinder for another crime film he had written, this one based on a kidnapping. *American Cinematographer* managed to round up the "usual suspect" himself and interrogate him about his first directorial outing, *The Way of the Gun*.

American Cinematographer: **Where did you get the idea for *The Way of The Gun*?**

McQuarrie: I had been trying to get another film, *Alexander the Great*, made for some time. I knew it was going to be very difficult to get that financed as my first film, so I looked for another project I could start out with that wouldn't be an $80 million epic. I didn't want to follow up *Suspects* with another crime movie and end up as "the crime guy," but after going from studio to studio trying to get other projects off the ground, I realized that [a crime thriller] was really the only film they were going to let me make. It was Benicio Del Toro who suggested a film about a kidnapping; he said he'd never really seen an interesting movie about it. I was having dinner one night with my wife, Benicio and [producer] Ken Kokin, and my wife told us this story about a wealthy couple who had hired a surrogate mother to have their child. They were very afraid something was going to happen to her, so they hired bodyguards to watch her 24 hours a day. That was the [premise] we needed. I thought, 'Well, what are the complications? We've come up with the simple plan, now how do we f*** it up?' There are all these variables that can go wrong, and it seemed like a great idea.

What prompted you to choose Dick Pope, BSC as your cinematographer?

McQuarrie: I wasn't interested in somebody who had a great deal of experience in or who had developed a style based on [music] videos, which is where a lot of cinematographers are coming from. I had originally spoken to Roger Deakins [ASC, BSC] about the project, because he was going to shoot *Alexander the Great* if it ever happened. But he was shooting the Coen brothers' film [*O Brother, Where Art Thou?*] and was unavailable. Instead, I asked him for a list of cinematographers he would recommend, and Dick Pope was one of them. Dick had shot all of [director] Mike Leigh's work, but he'd also done a film that I had seen years ago called *The Reflecting Skin*. That was so radically different from everything Dick was doing with Leigh that I realized, 'Here's a guy with range, not somebody who comes in and does one signature thing.' This was a guy who could help me come up with a look for this film that would be completely unique. I spoke to him on the phone, and we immediately hit it off. He came to the States to meet with me, and I knew right away that he was the guy.

***The Way of the Gun* harks back to some classic genres like Westerns, with a little gangster-film flavor. What were some of your inspirations for the picture?**

McQuarrie: I know a lot of people my age are big '70s nuts, and those are the films they grew up on. But I grew up on John Huston, John Sturges and John Ford. I just love that feel. When I first spoke to Dick Pope about what the film would look like, what I really wanted to go for was *Bad Day at Black Rock*. I love that bright, washed-out, almost 'primary colors' sort of backdrop. Sturges and Huston and Ford are all people who stay out of the action. They stand back in the corner of a room, and you feel very much like a spectator within the scene. I sometimes feel that pulling back is more involving than getting in there with close-ups and looking people right in the face.

Was that what motivated the lighting style, which seemed to involve fixtures hanging in the air?

McQuarrie: I think the thing we were most trying to do was to work as quickly as humanly possible! Dick was under enormous pressure to keep things moving, and he did so beautifully. The real areas where he

saved us a lot of time were the Mexican exteriors and the truck stop. He created this huge crane which had this thing we called the 'Lunar Pontiff' on it. We started calling Dick 'The Pontiff' during the first week of photography, and it sort of stuck. This rig would light an area of about a quarter of a mile in every direction, and it did a fantastic job of making the rest of the lighting very easy and quick.

What Dick and I worked out [for the Mexican motel shoot-out] was that Dick was going to make the lighting as easy as possible so that we could move from place to place. I was then going to shoot things in as many masters as possible, not in close-ups. It was completely inspired by the scene on the railroad track from *Bad Day at Black Rock* when Robert Ryan and his cronies are discussing what they're going to do with Spencer Tracy. It was a rotating series of masters, so there is never just one person in a shot. When Dick saw the completed film, he watched that scene and just started laughing. I said, 'What is it?' He said, 'If we had tried to light that scene and shoot it the way you were supposed to, getting angles on everybody, we'd still be there shooting it.'

So you took advantage of multi-camera setups?

McQuarrie: We tried to use two cameras as much as possible. There were times when Dick explained to me that two were going to be an enormous waste, and I didn't listen — and he was absolutely right. [Laughs.] I shot more footage in one day for the [Mexican motel] card game than I did in three days during the gunfight because I was running two cameras on one person for an 800-foot take six times! For the most part, though we were trying as often as possible to discover an angle that we hadn't anticipated. Because of the preparation, we could afford to do that. We knew that the shots we were getting were telling the story, and we could use a second camera to pick up some gravy.

How were you able to maintain such tight continuity and pacing during the shootouts?

McQuarrie: We sweated a lot about that. I'm not a fan of films that rely heavily on camerawork and editing trickery to imply action that just isn't there or doesn't look interesting by itself. I put myself in a corner when I started making the movie and decided that if I was going to stand outside of the action, the action had to speak for itself. If I had shot this a lot tighter or tried to do a lot of fancy, crazy things with the camera, you wouldn't be able to explain anything that is going on. You have to step back from it and be able to establish the geography of where everybody is.

Reflecting on your first feature directorial outing, was it what you expected?

McQuarrie: In the middle of production and the middle of post I reached a point where it was the worst job in the world. When you reach that point in production where you can't see the edges of what you're doing, you can't understand why anyone would want to get up every day and do this job. During all the time you thought you wanted to direct so you could have control, you never realized that the director is at the mercy of every single person and every single act of God in the universe. You have no control. Then you see the assembly, and you want to open your veins because you've just shot two hours and 45 minutes of the most incoherent garbage. But once you get into the cutting room and start to cut it together, you realize, 'This is great! I'm going to make a movie out of this.' ■

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Top: Hanging high above the Mexican motel set is the "Lunar Pontiff," a large lightbox designed by Pope, whom the crew jokingly dubbed "The Pontiff." Formed of 12' x 12' silks, the cube housed 16 nine-light Mini-Brutes with Par 36 globes and cast a quality of light that "hung" in the air. "To provide some of the ambience in several key locations," Pope says, "Maia [Javan] erected five wooden telephone poles on which I placed warm-gelled 2K Zips dressed to look like practicals. Those units cast a pool of light at the bottom of the poles." Bottom: Longbaugh and Sarno respectfully and congenially discuss their options outside the Mexican motel's bar.

directly by practical sources. "[The Chidducks' house] is the truest example of that in the film, because we really didn't use any practical lights there," Pope explains. "We didn't want it to be pretty and homey, because the characters were cold, ruthless people. The practicals that *were* in the house were covered with dark blue shades [and gave off] very little light. I also did my utmost to keep the light off the white walls, which we weren't allowed to repaint; I didn't want to let them pop."

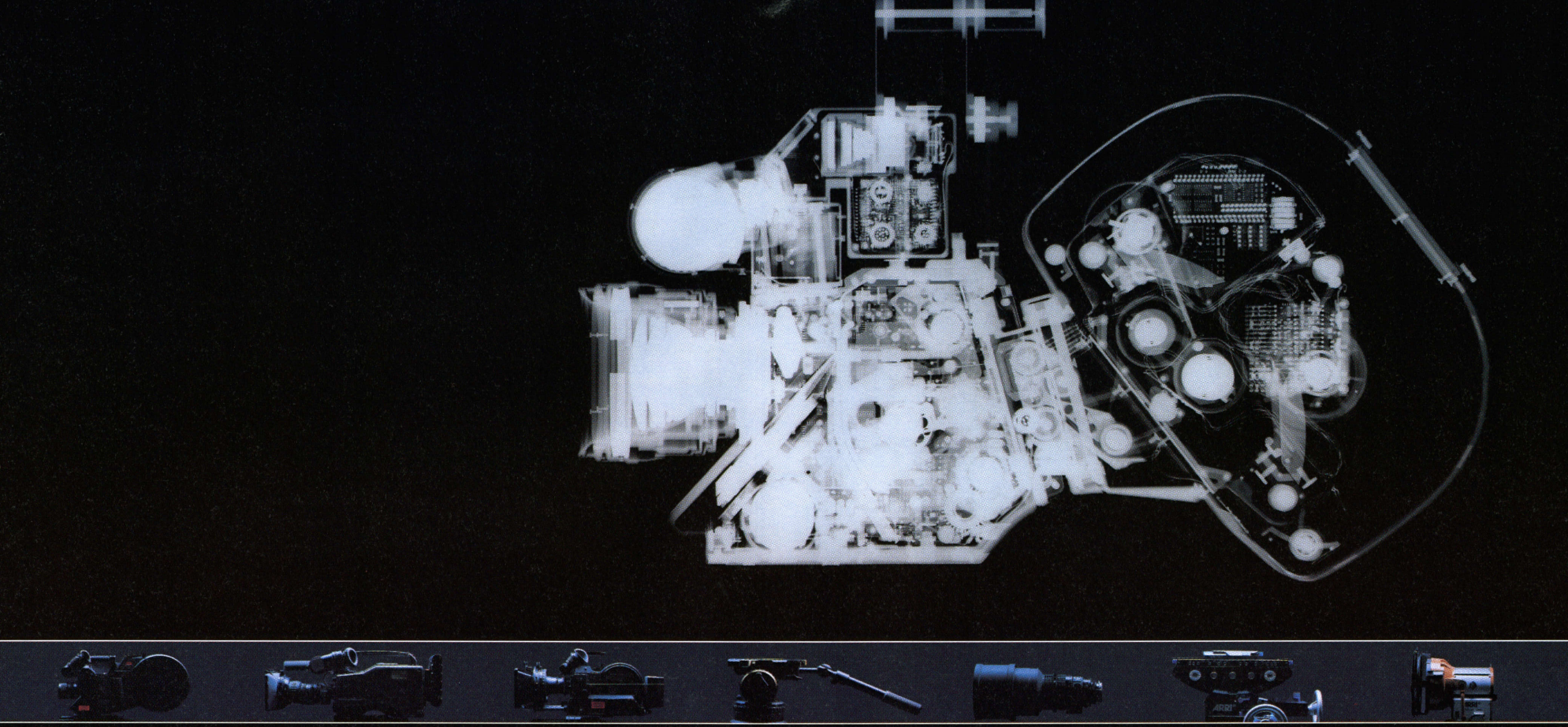
In a scene in which the icy Francesca eavesdrops from a staircase as the two bodyguards discuss their agenda in the kitchen, the lighting has distinctly noir edge. The cameraman notes, "For that scene, I lit the internal architecture, but I left the actors in silhouette, with very little light on the fronts of their faces. There was light coming in from the hallway, slashing across the doors and cabinets at the end of the room. I had two heavily flagged Kino Flo Wall-O-Lites and various smaller units, like 650s, 300s and Peppers, playing in there." The ceiling had small practical halogen lights that Pope refocused to cast additional pools of light onto cabinets, doors and countertops.

After kidnapping the surrogate mother, Longbaugh and Parker hole up in a rundown Mexican motel to make the ransom call. This sequence presented Pope with the challenge of lighting a large structure and area that lacked any type of lighting source. The cinematographer decided to fill the air, so to speak, with an atypical moonlight. "I kept the lighting quite moody and low-level out there so that the area didn't feel lit," he says. "The quality of illumination felt like it was just hanging there. You don't know where it's coming from, but you don't question it because it seems so natural."

At the desert motel location outside of Salt Lake City, Pope used tungsten sources to create an oasis of light surrounded by pitch blackness. "I'm generally against the blue-moonlight look unless it's called for, and this film didn't require it," he says.

The location's main source of light originated from a custom-crafted lightbox hoisted over the motel by a crane. This rig was dubbed the "Lunar Pontiff," a term inspired by Pope's on-set moniker: The Pontiff. "I was addressed like that the whole time," he chuckles, "especially by Chris and [first AD] Bill Clark, who both had a wicked sense of humor. I'd be listed on the call sheet as 'The Pontiff,' and even the people at Artisan Entertainment ended up calling me that! It went right down the line. [The phrase 'Lunar Pontiff'] really bemused me; I tried to explain to everyone in my English way that the look of that light wasn't actually lunar at all, but I was speaking to people who weren't interested in that! It was the 'Lunar Pontiff,' and that was that.

"I knew I wanted a strong but soft tungsten source — *not* moonlight — that I could hang over the location to provide an extensive pool of light. I also wanted it to be easily movable and totally controllable, intensity-wise, from the ground. I remembered reading an article years ago about how Haskell Wexler [ASC]



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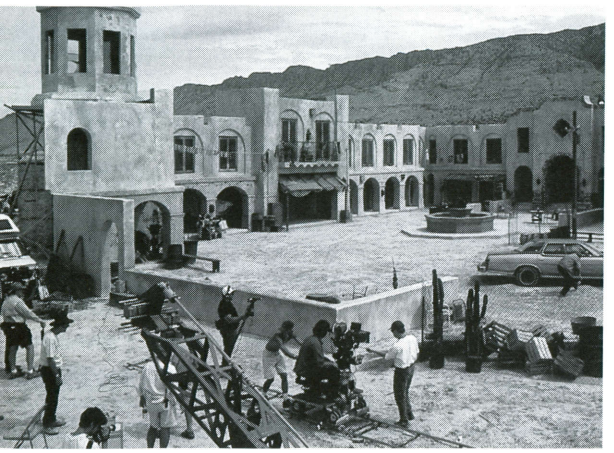

Production designer Maia Javan had three-quarters of the Mexican bordello exterior constructed in the desert outside Salt Lake City for the film's final, massive shootout.

had built a big lightbox to hang over a large parking-lot location at night on *Who's Afraid of Virginia Woolf?* I had always wanted to try it, and here was my opportunity.

"My excellent key grip, Arley Thomson, and gaffer, John Farr, took my ideas and designed a cube of 12' x 12' silks stretched over a speed-rail frame. [It contained] 16 nine-light Mini-Brutes with Par 36 globes hung internally from the top rail, four on each side at an angle of 45 degrees. Because they were Mini-Brutes, I had dimming control from the ground for every individual bar. The top third of the box was lined with fireproof material to protect the silk from the lamps, and the box was raised into place by an industrial crane with a top height of 120 feet and a reach of 45 feet. To stop it from swaying in the desert winds, wire tethers were attached to the four corners and anchored to the ground when necessary, well out of any shot."

To supplement the lightbox, three Condors were hidden around the set to provide modeling and backlight to the frame. Mounted on each Condor were three nine-light Maxi-Brutes (carried over from the show's stage work) with flood globes aimed through a frame of Lee diffusion. Though all three never played at the same time, they provided a soft, omnidirectional source of light.

The motel structure allowed for convenient placement of additional concealed fixtures, because the back part of its roof was like a flat catwalk obscured by the angled front. "The motel roof was perfect," Pope notes. "I had a number of fittings up there — 650s, Pups, 2Ks and a couple 5Ks — bounced into Lee Soft Pebble silver reflectors. I could play those whenever I needed, but if they were an embarrassment I could drop them down out of shot. I never played more than one or two, but I had them dotted around so that any one of them could be lifted up and turned on at any time. During the exterior confrontation among the Mexican police, the bodyguards and the kidnappers, I could model with these smaller fixtures outside of the frame because I was shooting right toward the façade of the motel."

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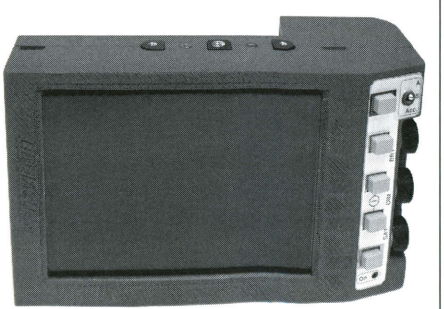

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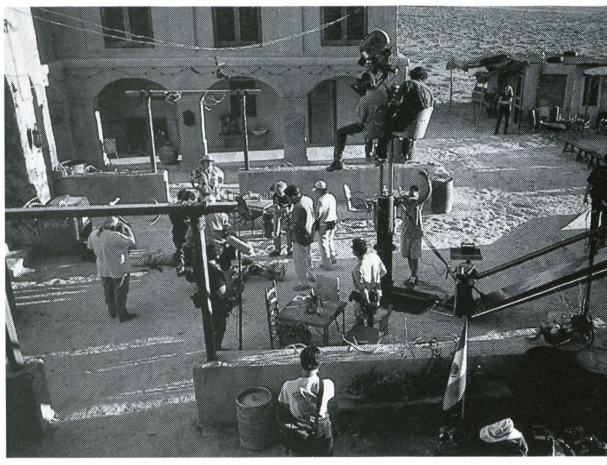
To throw some light into the actors' eyes, either Pope or the gaffer would handhold a variety of small Kino Flo units (equipped with 2900°K tubes) next to the cameras. The 2900°K tubes were used almost exclusively throughout the film.

A scene in which Longbaugh has a congenial tête-à-tête with Sarno in the motel bar presented Pope with another situation in which the lighting wasn't directly motivated by practical sources. "We employed a long length of string light cable with screw-in holders [similar to those used around construction sites,]" the cinematographer details. "I strung the cables right around the bare joists in the ceiling and then put in 75-watt PH11 photoflood bulbs. There was no ceiling, just bare joists. I was able to hide all of these small bulbs between the joists and bounce them off little pieces of white-sided black wrap stapled to the wood. We could undo them if they were in the shot. Zips gave me the lighting from outside through the windows. I then used a few small Kino Flos to deal with [the two characters] at the bar."

The final showdown takes place in the hot sun at an old, dilapidated Mexican bordello, where all of the concerned parties gather and clash in a hail of bullets (except the Chidducks, of course, who sit comfortably in their home awaiting the safe return of their baby -- and their money). Javan constructed the exterior bordello set in the desert and built a very realistic interior on stage. When coupled with Pope's detailed lighting, the combination could fool even the most scrutinizing eye. "That was a great set," Pope enthuses. "The extensive interior was constructed so that you could actually travel through all of the rooms in one hit. I lit the bordello entirely with tungsten lighting and not HMIs, primarily to exploit the warmth and control of the tungstens. I didn't have to use an 81EF filter [on the camera], although I still employed my warming filter, albeit a light one, on the lenses."



Despite the hectic gun battle going on, the filmmakers managed to maintain tight continuity. "Most of [those sequences] were storyboarded and very well-rehearsed, with tightly

Surrounded by crewmembers, the kidnappers lie battered and bloodied. Pope needed nets, silks and hard and soft reflectors to control hard sunlight and brighten shadow areas.

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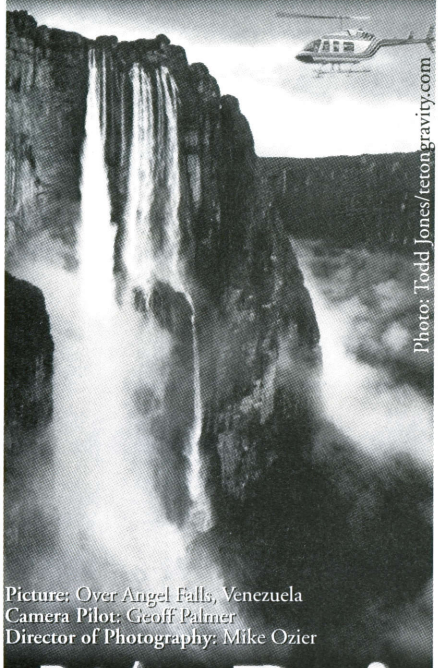

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The kidnappers train guns on their next victim in the bordello's interior corridor, which was constructed on a soundstage. Approximately 50 lighting units were needed to re-create the hot, stylized desert light on the set. Pope details: "I used 10 10Ks and two 20Ks focused through the windows to throw beams of sunlight through the shutters in the corridors. I gelled them with ¼ and ½ CTS. Of course, that gave me just the effect of the sunlight. I had to light the bordello's interior through the shutters as well to create an ambient, hot desert light coming in. To accomplish that, I used 16 [ungelled but diffused] nine-light Maxi-Brutes to pump in ambient light. I also bounced 16 nine-light Mini-Brutes off strategically placed white flats so that we only saw strips of white light between the gaps in each horizontal shutter." Two Aurasoft fixtures and two Kino Flo Wall-O-Lites were also used, as well as the rest of Pope's Kino Flo lighting package.

choreographed action," Pope recalls. "Chris's brother Doug, a Navy Seal, advised the actors on how to carry weapons, and on their body language and movement. We always played two cameras on the actors and overlapped the action from the previous shot. We often covered the same piece of action from different perspectives, which certainly helped in tightening the scenes during editing. I also feel that running at 24 frames per second without slo-mo helped the immediacy and believability of each moment in those scenes."

Though two cameras can often cause problems in lighting, Pope took measures to alleviate that concern. "Unless we're outside on day exteriors, I really hate to have two cameras working against each other if the lighting is compromised, or when one is on a long lens and one is on a wide angle," he says. "It's almost like the characters in our film, all pursuing a different agenda. I like the cameras to be very near each other on the same axis so that they really work for a given lighting setup. Chris was really great about that. We used our two cameras very sensibly, a couple of focal lengths apart — nothing radical in terms of shooting big close-ups while shooting wide shots at the same time."

The matching bordello exterior sequences posed lighting problems as well, considering that they were shot *after* the interior sequences. This forced Pope to manipulate the real sunlight to match the artificial sunlight he had created. "That was the most challeng-

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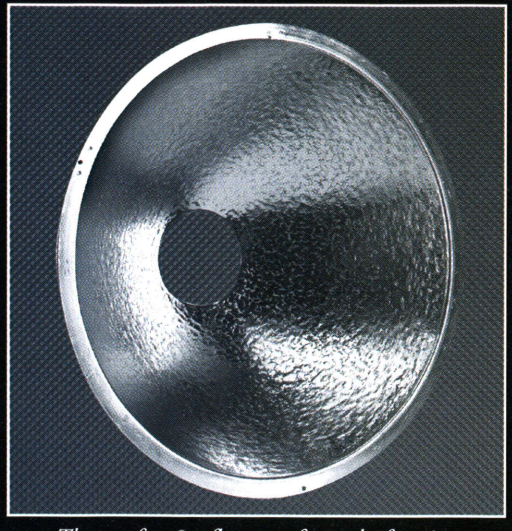

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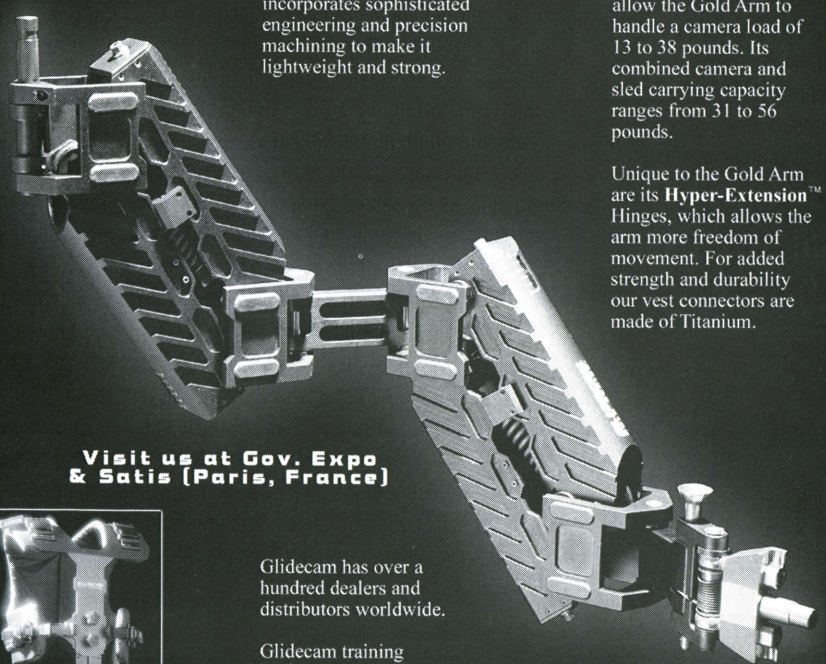

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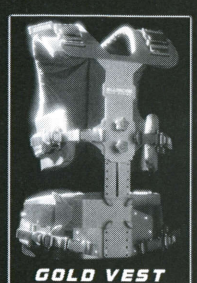

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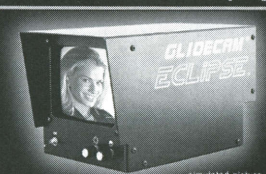

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A Pocket Full of Shells

ing part of the film — the one I approached with the most trepidation and had the least control over," he admits. "I would have liked to have had the whole set constructed on a turntable, because the sun just kept on moving around and it wouldn't stop in an optimal position! I mostly used white and silver Griffolyns, hard and soft reflectors, and nets and silks to lift shadow areas or control the hard contrast of the light. I also played an 18K Fresnel HMI and two 12K Par HMIs, all on Condors, mostly to reproduce backlight when it should have been there but wasn't. I hid other HMI fixtures behind the arched columns of the courtyard in order to lift the cloisters, which were often very dark in contrast to the main courtyard."

In the bordello's barroom, a 7K Xenon spotlight mounted high above the roof projected a slash of bright sunlight through a hole cut out of the ceiling. Other large HMIs placed in the bar and outside its windows helped achieve an exposure balance when actors moved from inside the bar out to the courtyard.

Looking back on the project, "The Pontiff" gives his blessing to first-time director McQuarrie. "He was decisive and knew exactly what he wanted, but he was always ready to listen," Pope notes. "He commanded great respect from those in front of the camera and those behind it. He was a walking film encyclopedia who was able to recall shots and recite whole tracts of dialogue from any film he had seen, and he was even an expert with firearms! Fortunately, he also had a great sense of humor, which he never lost." Assessing the film's climax, Pope says he can empathize when all of the characters' plans go exasperatingly wrong — some with deadly consequences. "This project was quite an experience, really," he laughs. "I felt sandbagged by it. Nonetheless, I was definitely ready for more!" ■

THE FUTURE OF FILMMAKING

Leaders of the Entertainment Industry Share Their Views of Tomorrow

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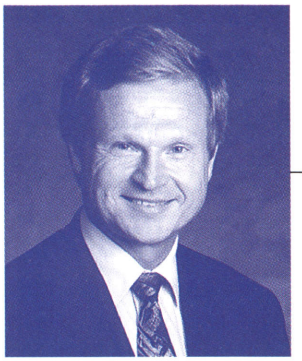

ON THE FUTURE OF FILM

By **Joerg D. Agin**
President
Entertainment Imaging
Eastman Kodak Company

This special insert focuses on the art and future of cinematography. Many cinematographers and other filmmakers from a broad spectrum of the industry share their visions of the future. They express many eloquent ideas and a shared passion for advancing this art form.

When Bill Fraker, ASC accepted the American Society of Cinematographers Lifetime Achievement Award earlier this year, he quoted the 19th-century English poet Robert Browning: "A man's reach should exceed his grasp, or what is heaven for?" Bill advised aspiring filmmakers, "You have got to go for it… you have to reach beyond your grasp each time you shoot. If you sit on your laurels, you'll only have one laurel." That sentiment embodies the spirit of this special issue. Our purpose is to provide a platform where some of the world's current and future great cinematographers and their colleagues from allied disciplines can talk about their dreams and the future of this art form.

Cinematographers tend to get overlooked when laurels are being handed out for artistry. One reason is that cinematographers are perceived as being below-the-line. They work with cameras, lights and lenses, so they are categorized as craftspeople. The reality is that cinematographers need to master a complex craft in order to express themselves as artists. Their best work is transparent.

At Kodak, our job is to provide the tools they need to do that and to evolve those tools at a pace that meets their creative needs.

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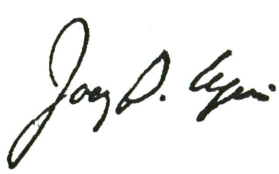
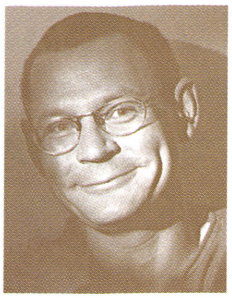
We believe film has unlimited possibilities as a tool for image capture. We are continuously improving negative, intermediate and print film technologies throughout the chain. We are also driving research that will significantly improve the presentation of motion pictures in cinemas. On the average, audiences see about half of the image quality captured on the negative. We believe we can close that gap considerably. Kodak is working with the industry to make film projectors sharper, brighter and steadier. We are also working with exhibitors to certify theater screens that satisfy industry standards. And we are playing an active role in designing standards for digital projection that will be an improvement rather than a compromise.

We have also set the standards for high-quality digital film scanning and recording technologies. In addition, Kodak is pioneering the use of digital intermediate technology at our Cinesite facilities in Los Angeles and London. We recently completed a project with Roger Deakins, ASC, BSC and Joel and Ethan Coen. Deakins filmed *O Brother, Where Art Thou?,* which was scripted and directed by the Coen brothers. The conformed negative was converted to digital format and the entire movie was given a unique, hand-painted look that captured the mood of the era in which the story was set.

Again, technology is a tool and in the hands of a creative filmmaker it's a tool to tell great stories. Today film provides levels of color and flexibility, quality and longevity that no other media can match. Our challenge as members of this great entertainment community is to help each other make informed choices — to understand the capabilities of the media we choose and to select the right media to let us all work without creative compromise.

I want to close by thanking everyone who participated in this project for their thoughtful contributions. Our intention is to make this discussion an ongoing dialogue that provides a platform for filmmakers to share their visions, their experiences and their insights.





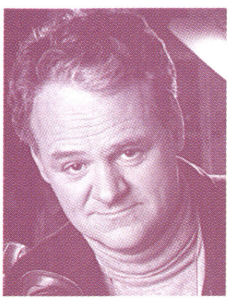
Janusz Kaminski, ASC

"I take still pictures for consumer magazines. *Lost Souls*, a movie I directed, is coming out this month. I've been directing and shooting commercials. I'm currently shooting *A.I.* with Steven Spielberg. So how would you categorize me?

"I believe I will still be doing all of those same things in the future and digital imaging will be one of the palettes I can use. My concern about digital technology is that it will diminish the importance of images in storytelling. There is more of a tendency to stop and talk when we are shooting film. My experience with video is that there is a 'roll tape' ritual that is much less thoughtful. There is no question that film looks better today, because it is more organic. The strength of digital video is that it costs less. It's not a question of which technology will prevail. Filmmaking is a language with its own grammar that has evolved over decades. The question is whether or not those traditions and aesthetic values survive. I suspect there will be a transition period — perhaps a generation where people without the same reference points for aesthetic values are using digital or video cameras that diminish the importance of images in storytelling.

"I think as cinematographers we need to be more willing to take chances, not only in the work we do, but also in how we express ourselves. We need to be more critical when someone or something diminishes the art, and less willing to celebrate mediocre work because we don't want to be controversial. Most of the great jazz artists learned how to play Chopin first. Filmmaking is no different. If you think of yourself as a digital rebel, I encourage you to find ways to learn the language and aesthetics of classical filmmaking as a collaborative process."

Saving Private Ryan, Amistad, The Lost World: Jurassic Park, Jerry Maguire, Schindler's List



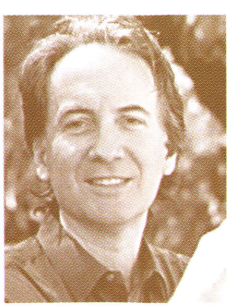
Robert McLachlan, CSC

"Years ago, when Adobe Illustrator first came out, we were all being told that now anyone could be a graphic designer and commercial illustrator. But it turned out that if you couldn't design a good layout without a computer, you sure weren't going to able to do one with a computer. The same rule applies any time a new tool or technology comes along.

"Technology doesn't make art. Artists make art. They may use technology to make it easier, or faster, or different, or new, but without an original idea behind it — with something to say, masterfully executed — it ain't art.

"Art doesn't come out of a computer or digital camera any more than it comes out of a tube of oil paint; it comes out of artists. A dilettante might disagree, but remember what Oscar Wilde said about them: 'A dilettante is a person who thinks he can pick a leaf from the laurel tree of art without paying for it with his life."

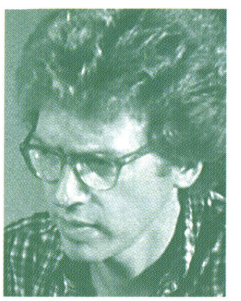
Final Destination, A Vision of Murder: The Story of Donielle, Millennium, Abduction of Innocence, The Commish, MacGyver



Tom Houghton

"It's my hope that new technologies will be seen within the context of that which has come before. While the computer offers access to different tools as well as shortcuts, those very time-saving devices can turn out to be the Cliffs Notes version of culture.

"Discipline and aesthetics will always be required. Aesthetics come largely from classical forms — we must still understand light, dark, color and the subtleties of their interpretation.



Phil Abraham

"I think the idea that technology will change the way we see and make films is a given. It already has for so many of us. But technology will not in itself change the way we think about films. Only filmmakers can do that, by redefining our conventions and creating new ways to view the human condition. A lot of discussion has been going on lately that with the advent of digital filmmaking, everyone will be able to be a director and a cameraman — just pick it up and go. That may be true, but good ideas still have to be there, and dramatic content and visual style will still be very much in demand."

The Sopranos

"Another aspect of our work that I hope will not change is set discipline — all those procedures that have been developed to allow the work to go smoothly. Many people who don't work on sets think our job is a simple recording process. Because the process of capturing an image has been simplified, the filmmaker may be lulled into a false sense of security that can create unpleasant surprises in the cutting room. But craft is still the primary goal, and anarchy on the set would be a disaster. In the end, you can shoot miles and miles of material, but it still must be put together by the artist to tell a story."

Jazz Night, Tiara Tango, Who Was That Man, and *Fire Down Below.* Houghton is a member of the executive board of ICG Local 600.

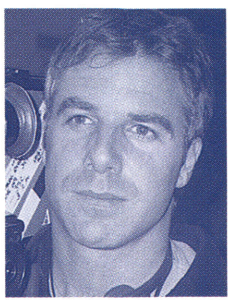
Janusz Kaminski photo by Douglas Kirkland; Tom Houghton photo by Janet Forman

Cinematographers

Lance Acord

"In any type of filmmaking, the materials you work with, the camera in your hand, and the medium that camera uses — motion-picture film — ultimately affect the way you create images. It's like the difference between playing a guitar and playing a sampled guitar sound on a sampler. The music you create will be shaped by that choice. Whatever the advances in digital video, the reality is that you are working with a different set of tools, and the images you create will look different because of that. That's not to say it's good or bad, or that one is better than the other. It's just the reality. But there's an element of magic in the photographic process, and because of that, film will always be more interesting to me."

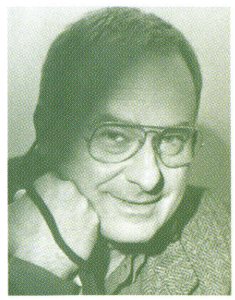
Being John Malkovich, Buffalo 66, Recycler and numerous music videos



Pierre Gill, CSC

"The technology is there for a reason: to help us make great films. I look forward to working with a mix of media in which the strengths of each medium are exploited. Soon you'll be able to affordably scan entire films into the computer. I believe that at that point, the film negative will be even more important than it is now. We will have the quality and softness of film with the rapidity and flexibility of the digital world. The important thing is to keep the same quality of filmmaking and to get into future technology without destroying everything that has been built up over the years by all of these talented cinematographers. The film stocks continue to improve. With movies, you have to move people, and film helps accomplish that. The technology is not just for fixing."

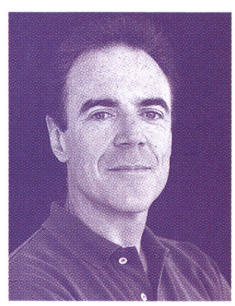
The Art of War, The Secret Adventures of Jules Verne, Souvenirs intimes, Joan of Arc



Dante Spinotti, ASC, AIC

"Moviemaking is about understanding the language of your film. It starts when somebody writes the first word in the script, and it goes through millions of decisions that have to be made from that moment until you screen it for audiences. An important part of this language is the way you shoot the movie. But it is only a part. It's important to develop the language of the movie you're filming, because the lighting and the rest come as a consequence. I want to go into the human values revealed in an event and visually represent that. So every minute of detail is important — the shape of a pair of glasses, the color of a tie, all are fundamental. Once you understand the rest of the language, then you know how you are going to light it. It's not about being pretty, technically perfect, or simply recording images."

Wonder Boys, The Insider, L.A. Confidential, Heat

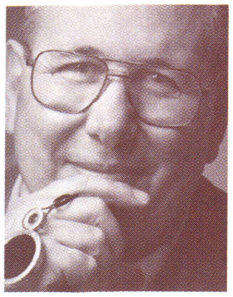


Richard Crudo, ASC

"Historically, cinematographers have always been the authors and guardians of the filmed image. We also have been the first to embrace and encourage technological advancement. This will continue as long as there is some form of motion picture, but as we move into the future we must be more vigilant than ever with our input and governance over progress. We simply cannot allow it to reach the screen at the cost of losing the undeniable magic inherent to the photochemical process. To do so would be similar to having the world at our disposal and gaining nothing — or more likely, putting wheels on skis. Regardless of how things evolve, there are two factors that will never be negated by man or technology: our taste and our experience. When those are combined in service of the creative control and capture of light on an emulsion, the possibilities for cinema are endless. And that, indeed, is why we exist at all."

Outside Providence, American Pie, Music From Another Room, American Buffalo, Federal Hill

Lance Acord photo by Tory Kooyman; Dante Spinotti photo by Douglas Kirkland; Richard Crudo photo by Noel Sutherland



George Spiro Dibie, ASC

"I'll always be grateful to Danny Arnold, who trusted me to shoot *Barney Miller*. It was a tape show but we lit it film-style. My next program, *Buffalo Bill*, was a film show. I feel blessed. I've earned 12 Emmy nominations and won six times. Some vendors say it is easier to shoot digital video. They say it has the same image quality as 35mm film, only you don't need to light, and you can work with a smaller crews because anything can be fixed with a computer in postproduction.

"Those claims are an insult to all of us who love this work. The art doesn't come from the cameras we use. It comes from the heart, soul and skill of the cinematographers and their crews. Anyone who has worked with film and digital media can tell you video is actually more time-consuming and difficult to light because it has much less latitude; you need to fill the shadows if you want the audience to see subtle details. We can also tell you that the ⅔" CCD array in the Sony/Panavision camera doesn't come close to capturing the resolution you get with film, particularly subtleties in colors and contrast. That doesn't mean we can't shoot artful digital video, because we do it everyday. But the art comes from the cinematographer. Technology is only a tool."

Sister, Sister, Growing Pains, Just the Ten of Us, Night Court , Room for Two, My Sister Sam, Nothing in Common and countless pilots for shows like *Murphy Brown* and *Driving Miss Daisy.* George Spiro Dibie is the President of the International Cinematographers Guild.

Teresa Medina, AEC

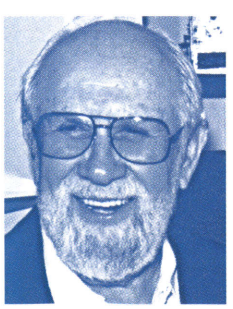
"What inspires me is telling stories. That's what makes a movie beautiful. You wait for those scripts and those kinds of directors who have something to say and who respect the contributions that we make as cinematographers. I believe every movie has a unique look, and my mission is to create the look the director and producer are trying to portray through the written word. It is magical to be at the point in the creative process where the printed page comes to life."

The 24 Hour Woman, Things I Never Told You, Female Perversions, Unconditional Love, *The Blue Diner,* and various documentaries and commercials.

Yuki

"The continuous emergence of new technology is exciting, but I'd like to see fewer films made for technology's sake. I want the audience to feel the environment. If it is a scene in the rain, they should be reminded of what it feels like to be in the rain. I believe sensory responses bring out emotional responses in people. Whether you choose to use Super 8, 35mm or a digital medium, as long as the content calls for the specific format there is the possibility of successful filmmaking. If your vision requires a digital camera or CG work, go for it, but if it relies on technology alone, it will become old in an instant once the 'next hot thing' comes out."

Yuki is a commercial director.



William A. Fraker, ASC

"Every good picture has a visual feeling or mood that is inherent to the script, director, cast and locations. Those are the elements you start with, and beyond that, you have to trust your experience and instincts to avoid getting locked into preconceived ideas. You have to reach beyond your grasp and go for it every time you shoot. If you want to survive in this industry, you have to think of yourself as a storyteller and a perennial student. Those video people who claim you can save time by not lighting, but just pushing the gain control button if it gets too dark, don't understand what we do. The truth is that you aren't normally lighting for exposure. For example, if you want to shoot a really dark movie, there has to be something bright — maybe only a footcandle or two — to provide a visual reference. If you want to tell stories, you have to learn how to use all 50 printing lights and all 128 tones of gray scale. That's how you create subtle images and that's what makes it an art. I'm teaching a course at USC (my alma mater) this fall, and I suspect those students are in for a surprise. I'm going to tell them to put their video cameras away and experiment with exposing images on film."

Rules of Engagement, Murphy's Romance, War Games, 1941, Heaven Can Wait, Looking for Mr. Goodbar, Bullitt, Rosemary's Baby

George Spiro Dibie photo by Douglas Kirkland

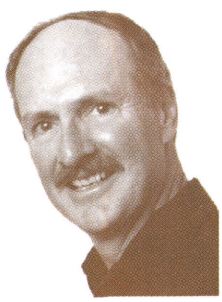
Roger Deakins, ASC, BSC

"If you believe everything you read and hear, the most important news is that digital technology is transforming the art form and will inevitably replace film. Of course, it wasn't so long ago that the pundits predicted television would replace the movie theater and photography was going to replace painting. The truth is that a book is still a book, whether the author uses a pen or a computer to express ideas, or whether it is printed on paper or distributed on the Internet. Computers and typewriters have made it easier to write, but Herman Melville wrote *Moby Dick* with a pen. Millions of people own film and digital still cameras that are easy to use and inexpensive. But there is still only one Henri Cartier-Bresson, only one Marc Riboud, and only one Sebastio Selgado.

"The technology available for filmmaking has evolved in remarkable ways, but the storytelling techniques being attributed to digital imaging can be traced back to the earliest days of the industry. Abel Gance used handheld cameras, split-screen images, natural lighting and non-professional actors during the 1920s. *Napoleon*, which he directed, is still a compelling film today. What made it great was the content and Gance's ability to assemble a team of filmmakers with the talent and skills to execute his ideas.

"Digital technology is a tool we can use to tell our stories when and where it is appropriate, but techniques aren't a substitute for ideas, and style isn't a replacement for content. I recently photographed *O Brother, Where Art Thou?* for Joel and Ethan Coen. We used digital intermediate technology throughout postproduction as an extension of cinematography. The technology enabled us to create a look that supported the mood of the story, but it's not the right technique for telling every story. I wish there was more discussion about how we can tell more compelling stories and less hype implying that different techniques and uses of technology will replace or diminish the cinematographer's role in telling stories."

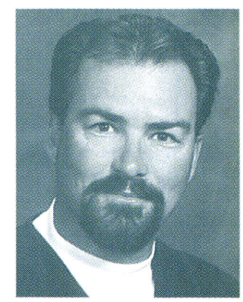
Kundun, Fargo, Dead Man Walking, The Shawshank Redemption, The Hudsucker Proxy, Barton Fink



Bill Bennett

"This is my life's work, so I'm offended when vendors claim you can save time and money because you don't need to light with digital HD camcorders. They say you just point the camera, push a button, and then fix it in post. That's way too simplistic. Like most cinematographers, I believe I can shoot anything, but it all begins with understanding the story. Chances are you wouldn't light a tough guy in a movie the way you light a glamorous actress. It's the same with products in TV spots. That's why you usually light a truck differently than a luxury car. They are like characters in a narrative story. It's true that when you are shooting film for a TV commercial, even for an HD screen, you are tremendously over-sampling colors and contrast, but that's what gives you the latitude to create different looks. Just about anything is possible. What distinguishes my work from others' is the decisions I make based on my taste and experience. People who claim you don't have to light just don't understand the language of film."

Bill Bennett has compiled more than 1,000 TV commercial credits.

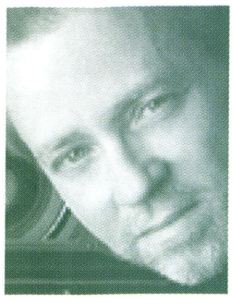


Bill Roe

"I think the main ways this job are changing is that stories are more visual and producers have higher expectations. They want us to create looks that help tell their stories, and at the same time, they want us to shoot more setups at a faster pace. Fortunately, we have much better tools today. Some think it is inevitable that in 10 or 20 years we'll all be shooting digital video. Who knows what will happen? Maybe that will be true in 10 or 20 years, but I still believe film is the best way to shoot today. It has more colors, more latitude and more textures. They say you can create a film look in postproduction, but I don't know a cinematographer who would be content to have someone else routinely fix his lighting with a computer. When I look at the great stories being told on television today and the incredible work being done by cinematographers, I can't understand why anyone would settle for anything less."

Bill Roe has won two ASC Outstanding Achievement Awards for his work on *The X-Files.*

Roger Deakins and Bill Bennett phots by Douglas Kirkland



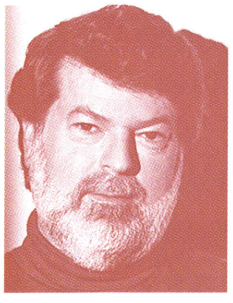
Steven Poster, ASC

"HD imaging is the same as 35mm film and costs less, so inevitably it will be used for more productions. True or false? Actually, that claim was first made around 1982 by many of the same companies that were speaking as passionately then as they are today.

"If I sound a little skeptical. I have seen the future, and it is now. History has taught us that there will be an evolution of technology, and also that the more things change, the more they stay the same. One thing to remember is that technology is a means to an end. It has very little to do with the art of telling stories with moving images. It's another tool we can use, an extra flavor of paint on the palette. We need to master the technology, but that's not a new concept for cinematographers. It's unfortunate, the way digital image capture is being marketed and the naïvete of the press in swallowing the bait. They are being told, 'It's easy. Anyone can make a movie. Just put a digital camera on your shoulder and push a button. We can fix it in post.'

"I believe our role at the ASC, and all of us as cinematographers, is to be the guardians at the gate. We need to be diligent and willing to express our opinions out in the open. Personally, I think the 24p images I've seen so far look pretty good. We should embrace it when it happens to be the right medium for stories we are telling. But it is absolutely not film. It is a different look with a different aesthetic for different projects."

Une Chance Sur Duex (Half a Chance), The Color of Justice, The Roswell Incident, Someone to Watch Over Me, Testament



Dean Cundey, ASC

"Cinematographers are the people standing between the craft and the technology on one side and the artistry on the other. We have to take all this technology that has existed for more than a hundred years and make it work with technology that arrived yesterday. We have to apply it to the creative process, to the product of the imagination of the writer, and to the great ideas the director has about where to take us — and make all those things work together."

The Parent Trap (1998), *Apollo 13, Jurassic Park, Back to the Future* trilogy, *Romancing the Stone*

Russell Carpenter, ASC

"I recall that John Toll said cinematography is 'the guardian of the director's visual intent.' In the work of all of the finest cinematographers, there is an element of magic. They lead the audience into the realm of poetry and the unconscious. That's the true role of the cinematographer: to create the extraordinary and make that manifest in the world of visual perception. Whether the director and I create images solely on film or enhance them with a digital palette doesn't really matter much. What does matter is that the director and I guide that process."

Charlie's Angels: The Movie, The Negotiator, Titanic, T2 3-D: Battle Across Time, The Indian in the Cupboard, True Lies

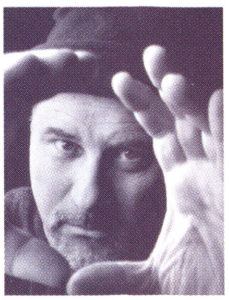
Rodney Taylor

"Some people are looking toward the future with the idea that new technology will replace film. I don't think we will just come on the set one day and find that a digital camera has replaced film. I believe we will have more choices to tell stories. When you read a script, you will begin thinking, 'Is this story right for film or digital?' We have to explore the advantages of each format and which technology will best tell the story. You couldn't have shot *The Last Emperor* with any digital camera we have today. Film gives us a different emotional response, and it allows us to capture wide landscape shots, subtle lighting, and the beautiful colors that Vittorio Storaro felt were so important to the emotion of that story. The elegant silk floating above the young Emperor's head is a very different image than the nervous son revealing the dark secrets of his father at a family gathering in *The Celebration.* Anthony Dod Mantle took complete advantage of the small DV camera to intimately capture the emotions of that family's gathering. In the future, cinematographers will still collaborate with directors, and we will still use composition and light to tell stories with moving pictures."

IMAX films include *Loch Lomond* and *Alaska, Wildfire;* features include *Sparkler* and *Morning*

Steven Poster and Dean Cundey phots by Douglas Kirkland

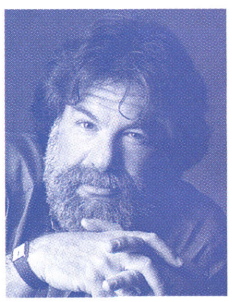
Cinematographers



Tom Sigel, ASC

"Twenty years ago, if you were a cinematographer, what you did was pretty clear. You shot films for television or the cinema. Now there are DVDs, CD-Roms and the Internet. There is also digital and optical imaging, and many cinematographers also play a role in visual effects. Maybe that means some filmmaking won't be as collaborative, with fewer people having more control, but that's not bad if it means we can make more films with stronger points of view. It's also not a new idea. Look at how Richard Lester staged scenes and used mixed media during the 1960s. His innovative spirit made him a more complete storyteller. I'm hoping the new media will provide more opportunities for that type of filmmaking in the future."

X-Men, Three Kings, Apt Pupil, The Trigger Effect, The Usual Suspects



Robbie Greenberg, ASC

"I think the future of cinema is going to present us with limitless possibilities for visual creation. What is most exciting to me is the chance to use this digital technology to enhance our art. While change is always a little frightening, I have to say that this is really an inspired time — a time when new opportunities and techniques can provide fuel for our lives as artists and filmmakers."

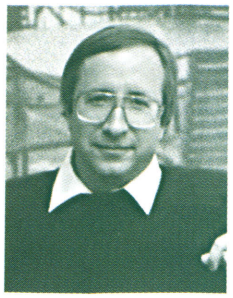
Free Willy, The Milagro Beanfield War, Creator, Sweet Dreams. His HBO films *Winchell* and *Introducing Dorothy Dandridge* won ASC Outstanding Achievement Awards.

Matthew J. Arkins, III

"I've heard people say documentaries are shot on video because it costs less. It depends on the story you are telling. I recently shot a natural history documentary called *Lion of the Americas* for the Discovery Channel. We wanted to show the audience why the North American mountain lion is such an efficient predator. We wanted them to see the ripples in its muscle structure and how the lion uses its tail for balance as it stalks and chases its prey while running 35 miles an hour. We used narrative filmmaking techniques — chase cars, cranes, dollies, and accelerated frame rates for slow-motion images. I used a combination of Super 35 and Super 16 cameras with a mix of prime, long and zoom lenses, working mainly in natural light, recording images on Kodak Vision 250D film. It was just like a movie. Combining 'commercial' and 'feature' techniques with the new camera technology and films has opened the door to new creative possibilities. That has enabled us to visualize and tell stories that we wouldn't have been able to in years past. Our goal was simple: we had an important story to tell, and if we wanted to succeed, we needed to create the production values the audience expects to see on television."

Discovery Channel documentaries include *The Lion of the Americas, The Last Phantom: The Secret Life of the Wolverine, and Anaconda: Queen of the River.* Arkin has also directed and photographed numerous commercials and videos.

Tom Sigel and Robbie Greenberg photos by Douglas Kirkland



Stephen Burum, ASC

"There is so much talk about technology today, but I don't think that will be a dominant factor for determining the future of this industry. It's important for cinematographers to master all the new tools, so they can use them where they fit. We used digital technology to replace the sky in many exterior scenes when we shot *Mission to Mars*, but we also used low-tech techniques when they were the best way to solve problems. We made reflectors out of copper foil I bought in a hobby store to fill the shadows on Mars with reddish light. When the astronauts were working on the surface of the planet, I put a bounce in their steps by overcranking at 32 to 36 frames per second in some scenes and at 48 fps on tighter shots. Those techniques were subtle ways of telling the audience they were witnessing something happening on the low-gravity surface of a planet that is washed in reddish light. If you make it too obvious, it doesn't work. The big question for the future isn't whether film or digital technology will prevail, but rather how we can tell better stories with more interesting characters."

Mission to Mars, Mission: Impossible, Hoffa, The War of the Roses, The Untouchables, Body Double

Nancy Schreiber, ASC

"There is no doubt that the digital revolution is here. A former music-video director I used to work with now owns a digital camera and inexpensive editing system. He now directs, shoots and edits corporate videos as a one-man band. But that is just one scenario for the future. Fortunately, most directors and producers still think of this work as an artistic collaboration. I believe we will be shooting film for quite a while longer. We have many options in our film stock choice, and we have choices in how we treat or manipulate our films with specialized lab processes such as pushing, pulling, bleach bypass, cross processing, etc. We have enormous choices of filtration, which at this point in time allow those of us working in celluloid more subtle control over the artistic image. I'm not closed-minded to the technology. I've shot most of the digital video formats from mini DV to high-def, and I feel these are powerful tools for certain types of projects. The majority of *Blair Witch 2* was shot on 35mm, but I did use a bit of digital video and a mini DV camcorder for certain points in the story. It's common today to mix formats and technologies, and I feel this trend will continue. Some people believe video is more democratic because of its low cost and because just about anyone can pick up a camera and create a 'movie,' then distribute it on the Internet. However, this doesn't necessarily make them great storytellers."

Blair Witch 2: Book of Shadows, Shadow Magic, Buying the Cow, Your Friends and Neighbors, Celluloid Closet, Lush Life, Chain of Desire, Visions of Light

David Darby

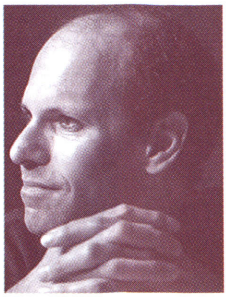
"I just spent two weeks shooting a car commercial with as many as 14 film cameras, in formats that included Super 8, wind-up 16mm and 35mm. Helicopters were always flying; intervalometers were controlling time-lapse shots; Arriflex 435 cameras were changing speeds and shutter angles constantly. At one point, 10 35mm cameras were synced at 96 fps, rigged together with identical focal length lenses, traveling on a camera car on a dry lake bed. There is no way video cameras could have been used that way.

"Then there is the question of film latitude. Having shot the majority of my work backlit for 15 years, I know rather intimately what happens with a frame full of backlit water, dust or smoke. Today's films hold incredible texture in the highlights that would have been considered 'blown-out' or 'too far gone' just a few years ago. The point is, with film you can go as far as you need to on either side of key and record the look of life.

"Film is an organic recording medium. Add light to that equation, and if you have any emotion in your story, you should be shooting film. Period. That is just a feeling I have, but what else is this business supposed to be about? Of course, it's a business also, which is another reason why the film-production infrastructure makes infinitely more sense. The same car job mentioned above could not have been shot in the same number of hours with the same number of setups and achieved the varied and diverse look of the commercial result had it been shot using a 24p camera. Why on earth would any cinematographer want to tell a director, 'Sorry, we can't do that, and we won't be able to do that, either.' With film, you can do it all."

Darby has shot numerous commercials, and documentaries and recently completed the feature *True Rights*.

Nancy Schreiber phot by Douglas Kirkland



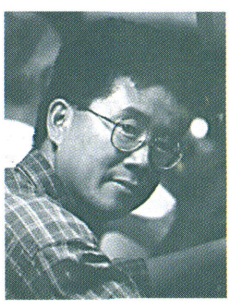
Jon Fauer

"If the future were easy to predict, the world's richest man would have anticipated the Internet earlier; Betamax would be the standard instead of VHS; 95 percent of computer users would be using Macs; and the popularity of the VCR would have led to the demise of the movie theater. Who could have predicted 100 years ago, when film was viewed as a flickering, postage-stamp size image on a Kinetoscope, that a flickering, postage-stamp image delivered to home computers via the Internet would be considered progress today?

"In that spirit, my prediction is that in the future, movies will be stored in digital file servers for on-demand delivery, piped directly into homes anywhere in the world wirelessly. We will watch movies on large hybrid, flat-panel computer/TV displays with portable viewing on small pop-out screens. Since the home delivery system will be digital, image quality will be resolution independent. In that future world, HDTV will be history. Your home monitor will be able to display films in their original aspect ratios at any resolution.

"Who wins the current digital video/ film origination debate? Neither side. If I close my eyes and dream, my wish list includes a film emulsion that is electro-optical, with each silver-halide crystal containing both visual and digital data. This film will work conventionally with a lens and light for projection and also for telecine conversion. One more thing: the film of tomorrow will be backward-compatible with all pre-existing motion picture cameras."

F.D.R., *Losey on Film*, and many commercials, title sequences and short subjects



Ted Chu

"Every week there is a new Web site showing digital films. Although readily available, digital media do not compare to the textures of immersing yourself in a movie at the theater. Nevertheless, whether you use a blimped camera or a digital camera, all media are active metaphors, translating what is in our hearts into palpable forms of communication. Filmmaking is not about what kind of camera you use but about revealing the human experience. The cinematographer will always be here to make that happen."

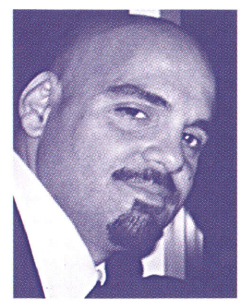
Chu earned a master's degree in art from the American Film Institute. He was one of seven finalists in the ICG Showcase 2000 for his short film *Dominant Seventh*.

Cinematographers

Julian Whatley

"It's true that almost anyone can learn the technical side of cinematography. It's also true that a lot of people can develop the ability to play a Steinway piano. But there's only one Vladimir Horowitz. I believe that in the future, like today, cinematographers will succeed because of their aesthetic sensibilities and because of their ability to discern not the good from the bad, but the great from the sublime."

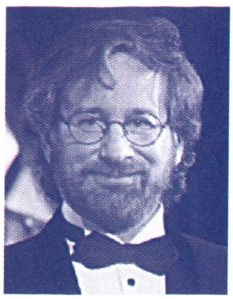
Korn's *Freak on a Leash* and Green Day's *Time of Your Life*.



David A. Armstrong

"So much has been said about the future of film vs. digital. I certainly see that there will definitely be a merger — for example, originating on film and then projecting digitally. However, like the writer who prefers pen and paper rather then a word processor, I not only LOVE shooting with film, but I love the whole process that goes with it. I love the way silver reacts to light, the chemistry involved, waiting for dailies, threading film in a camera, right down to holding the negative in your hands. These and other tactile processes are part of what makes cinematography an art form."

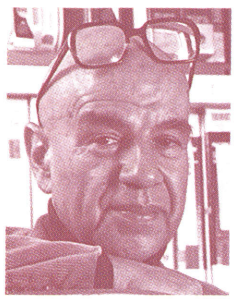
Winner of 1999 AFI Mary Pickford Award and the 1999 ASC Student Award for cinematography. His AFI thesis film, *John*, was featured at the ICG 2000 Showcase and at the American Pavilion in Cannes.



Steven Spielberg

"Arts stimulate something inside of us. I'm going to direct all my films on film until they close the last lab down."

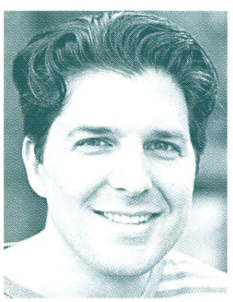
Saving Private Ryan, Amistad, Schindler's List, Jurassic Park, The Color Purple, and the *Indiana Jones* trilogy.



Bud Greenspan

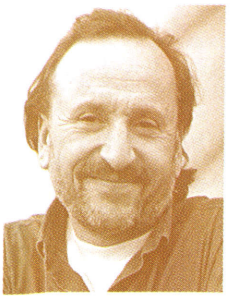
"Cinematographers are far from being simply recorders of the scene. Sometimes the best sports cameramen we have a background in feature films, because they understand the story. I ask them, 'Do you write? Do you like to read? Do you like opera?' I equate all classicism in film to classicism in all the arts. The technology improvements are marvelous and I understand their impact, but sometimes people use new things only because they have been invented."

Official Olympic documentaries, including *Sydney 2000 Olympic Games.*



Mark Osborne

"I studied art and branched into stop-motion animation. It was a great way to explore storytelling one frame at a time. I shot my second short film independently in IMAX format. After it won a prize at Sundance and got an Oscar nomination, I got hundreds of phone calls, including agents who wanted to represent me. Choosing an independent path, my brother and I raised the money for our pet project *Dropping Out,* and we shot it in 24 days. [Cinematographer] Brian Capener made a real contribution in creating looks that supported the story. We described our main character and his environment as tobacco-stained. We wanted to set up a very bleak world that would contrast well with his colorful fantasy world.



Mikael Salomon, ASC

"I don't expect the roles of the director or cinematographer to change significantly. Directors will still tell stories and collaborate with cinematographers who light and compose images. Digital imaging is getting better. I have an open mind, but I still prefer film for the richness of the look coupled with the flexibility of digital postproduction. We bought an HDTV set with a 64-inch screen and it's a fantastic way to see films. We are seeing a lot of good and bold movies on HBO, Showtime and other cable channels, but I don't think that means the cinema is going to go away, because people will still want a communal experience away from their homes. I think it is important to improve projection quality, but what we really need are better scripts with more interesting stories because I think tomorrow's audiences will have high expectations. That's my best hope for what the future will bring. It's not about technology, it's about stories."

Director of photography on *Far and Away, Backdraft, Always,* and *The Abyss.* Directed *Band of Brothers, Sole Survivor, Aftershock,* and *The Fugitive.*

We did most of the look of the film with lighting and the camera, but there were few fantasy sequences where we digitized images so we could saturate the colors without affecting skin tones. I've been thinking hard about digital imaging and how it's going to evolve, but originating on film feels right for the types of projects that interest me today. There is something I love about the visceral texture, especially in stop-motion animation, that feels organic. Sometimes CG animation still looks plastic to me. I also like the digital intermediate concept that we used, because it allows us to manipulate and enhance images in an experimental way."

Dropping Out, and *More,* an Oscar-nominated IMAX short film.

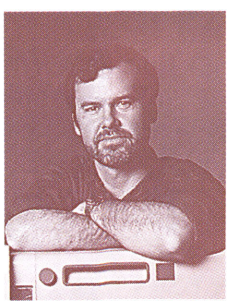
Bud Greenspan photo by Frode Nielsen

Jon Shear

"I love stretching the boundaries of the comfort zone, for myself and for audiences. As director and co-writer of *Urbania,* I wanted the audience to feel connected to the story and its lead character, Charlie, even as the film went to some unusual places. *Urbania* plays with structure, color and sound to let the audience experience most vividly Charlie's skewed sense of the world in the wake of a traumatic loss. Production was an exercise in low-tech filmmaking. We used a 20-year-old camera with Super 16 film. Its highly saturated colors and grain structure were a perfect match for the film's blend of hyper-real emotions in a slightly surreal environment.

"We then tested new waters with groundbreaking postproduction techniques. *Urbania* was the first film to convert completely from film to a digital format (for color-timing, opticals and to blow up from 16mm to 35mm without a generational loss) without cutting its original negative. I should thank writer/director Gary Ross, because I got the idea from an article I read in *American Cinematographer* about how he used many of these techniques during the making of *Pleasantville.* We created a 150-minute film with some 1,500 cuts and no splices. I think the moral is that there are many different paths to the future; there is no 'right' one. You have to trust your instincts, build a strong team around you and throw caution to the wind. Taking risks creates an energy that passes from the film to the audience and, we hope, into their lives."

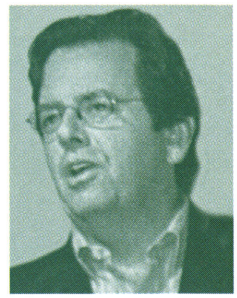
Urbania premiered at 2000 Sundance Film Festival.



Bill McDonald

UCLA Vice Chair for Production
Department of Film and Television

"At UCLA, we want to lay a foundation in the basic concepts of visual storyteling. We teach cinematography students that whatever recording medium you're using, you are framing through a lens, which means you're selectively framing the world. The idea is to consider what the audience sees, how they see it and when they see it. The question when a new technology arrives is: Will it help me tell the story? The film vs. video argument tries to turn everything to black or white. It's either this or it's that. You know what? It's all the same, because the principles of exposure apply no matter what you're laying it down on. As Woody Omens says, the speed of light doesn't change. As long as you have light, the question is: 'How are you going to manipulate it?'"



Thom Mount

President
Producer's Guild of America

"When I was a young studio executive and producer in this business, I was incredibly privileged at Universal to work with some of the most talented cinematographers working: Billy Fraker, Connie Hall, Ozzie Morris, Laszlo Kovacs, David Watkin, Vilmos Zsigmond and John Alonzo, just to name a few. As I got to know these cinematographers, I came to understand that their role is very different from what I had imagined. I thought they were there to photograph the movie. But these remarkable people have a different calling. They have some common threads. First, they are all consummate technicians. They are also eminently adaptable. But the third and most important common thread is that great cinematographers are storytellers.

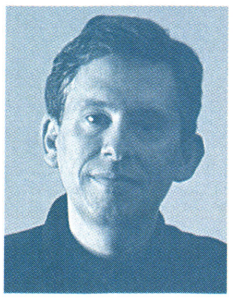
"They share that ability to sympathize, and enhance all aspects of the narrative. That is the rarest talent of all. What they do is simply the backbone of cinema. It's the axis around which our involvement in the story, our emotional commitment, turns. That value is a greater value than any technology. The whole host of technological wonders is perplexing and astonishing, but it cannot hold a candle, or a footcandle if you will, to the power of the cinematographer."

Tom Dey

"Movies at their best are about making the world a smaller place. They're about the shared experience of storytelling that occurs when a bunch of strangers sit in a dark room and go on a journey together. As storytellers, we share a responsibility, no matter what piece of equipment is in our hands, to help people learn how to live better and provoke them to think, feel and care about the world around them. As a director, I am always trying to work toward the implied message that people of different races and cultures ultimately have more in common than not. That is the message that must transcend whatever medium I choose to tell my story."

Shanghai Noon

Visual Effects



Hoyt Yeatman

Senior Visual-Effects Supervisor
The Secret Lab

"There is so much talk about technology and whether live-action elements for effects shots will be captured in film or digital video, but that's a peripheral issue. The real issue is that technology should heighten rather than diminish the collaborative process involving cinematographers and visual effects supervisors like myself. The cinematographer is primarily responsible for designing the look and creating an emotional tone for the story with the director. It's my responsibility to work with them to ensure that their vision is consistently maintained in all visual-effects shots. That's true whether they are shooting a live-action element for a bluescreen composite or we are integrating CG images into a shot. We have great tools for achieving those results in digital post, and more are being invented every day.

"I believe it is important for the creative community to be proactive in driving the evolution of technology. A couple of years ago, I worked with Kodak on the invention of a camera film designed to optimize photographing blue-and greenscreen elements while we were working on *Mighty Joe Young*. I'm finding that more and more cinematographers are digitally literate and anxious to collaborate. I think the most important thing we can do in the future to enhance the art of filmmaking is ensure that the visual effects supervisor and cinematographer are collaborating as early as possible in preproduction. Working together as a team, we can save time and find creative ways to express the words in the scripts as moving images on the screen. Progress isn't a destination; it's a journey."

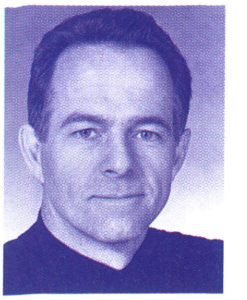
Mission to Mars, Mighty Joe Young, Armageddon, The Rock

Richard Edlund, ASC

Visual-Effects Supervisor

"The cinematographer is crucial on the set. He or she composes the shots, choreographs the positioning and motion of the camera, supervises color-timing and controls and sets the personality of the collective crew during principal photography. Whether he or she is working with a film or digital camera won't change those responsibilities. What will change are the expectations of the audience as we all move into the future."

Original *Star Wars* trilogy, *Ghostbusters, 2010, Alien*^{3}

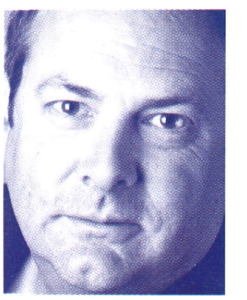


Mike McAlister

Senior Visual-Effects Supervisor
Cinesite

"The much-discussed democratization of the technology will allow more people access to the medium. But you can't democratize talent. You cannot cause inspiration or creation by supplying a tool. One of the things that I've noticed over the years is there are people who can create, in the truest sense, something from nothing — like writers on an empty page, coming up with a brilliant screenplay. And there are people who can create images to express what the writer is saying. Then there's a whole bunch of other people who can make anything you tell them to make, but they can't create something from nothing. No new technology is going to make them into true creators."

The Truman Show, Waterworld, Indiana Jones trilogy, *Star Wars* trilogy



Peter Donen

Visual-Effects Supervisor

"Filmmaking is an unbelievably collaborative process. As a supervisor, you have to get inside directors' minds and synthesize the images that tell their story. It's not about who has the best software for creating explosions or doing bluescreens. Great visual effects should not draw attention to themselves, but should make the stories and characters come alive. That's always been true, but we can do it more elegantly and invisibly today because of the digital revolution. I love this work because it allows us to bring magic into people's lives."

U-571, The Horse Whisperer, U.S. Marshals, Executive Decision, Flatliners

Peter Donen photo by Tory Kooyman

Beverly Wood

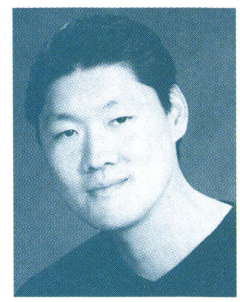
Vice President Technology
Deluxe Labs

"As a person 44 years of age who has been in this business for exactly 20 years, I have seen and heard the predictions of what video and now digital will do to the release film business. While many things have changed, we have seen the box-office totals, the number of release prints, and the need for product grow at an unbelievable rate. I am excited about the future of the film business. Change always presents new opportunities, and it forces us to think 'outside the box.'

"There is a growing need for a wide spectrum of content for televison, the Internet, home video and small and large theaters. It will require the convergence of various film, digital and hybrid imaging technologies to serve those needs. The media is quick to apply the words 'cutting-edge' to the latest imaging technologies simply because they are new—and more frequently because of the way they are marketed. That's the hype. The reality is that there are many ways technological innovation will change our world. The use of digital intermediate technology as an interface between film origination and release printing has interesting possibilities as an extension of the art form.

"One thing I am certain of is that the content creators —the cinematographers, editors, directors, visual effects practitioners and others — must be involved in any dialogue that determines the future of our industry. Deluxe Labs has been in this business for 85 years, so we have a vested interest in the future, and a commitment to making hybrid technologies work. It is much more than a business to all of us. It's a way of life, a passion we feel for the work that we do and an obligation we feel to the filmmakers who trust us to do the right thing today and tomorrow."

Laboratory & Postproduction Experts

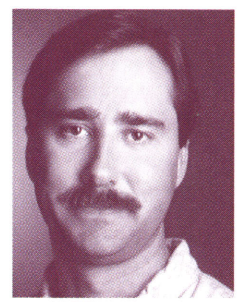


Steve Nakamura

Colorist
The Post Group

"It's very important for the cinematographer to work in conjunction with the colorist during the mastering process. That input is imperative in order to replicate the original mood and look captured on film. The telecine bay also opens up some opportunities that cannot be achieved with filters or through the photochemical process. For example, during the mastering process the colorist can isolate individual colors and separate them based on hue, saturation and luminance levels. The colorist can also control contrast, geometry and tonal hues. This gives the cinematographer creative options that he doesn't normally have. With that in mind, many of cinematographers who started their careers shooting film for video, including music videos and commercials, are quite comfortable in the telecine suite. In fact, they often depend on the wide range of options the colorist can provide. However, many feature-film cinematographers, who are used to the lab process of printing films for final look, are somewhat leery of telecine because so many changes can be made to alter the look. That's why it's crucial to have them in the telecine suite. They lay the foundation for how the film they shot will look on video."

Seven, The Game, Fight Club and numerous music videos.

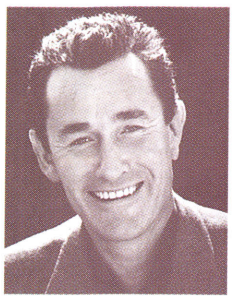


Mike Sowa

Senior Feature Mastering Colorist
LaserPacific Media Corp.

"The future of filmmaking is filled with the promise of significant digital technology that will extend the range and scope of the filmed image. With these powerful new tools, we will have the ability to create images of unprecedented quality, which will inject amazing nuance and subtlety into stories."

Equipment Manufacturers

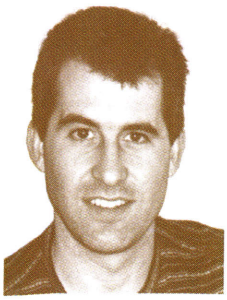


John Farrand

President and CEO
Panavision

"I've never read as much uneducated speculation anywhere as I have seen in Internet chat rooms where people write about how the [Sony/Panavision] 24p camera is supposed to change the industry. People who have never seen or tested this camera — or even seen anything that was originated with it transferred to film, are making outrageous claims. You don't see Panavision making those claims. This product is just out of development. We are certainly not in a position to judge what, if any, effect it might have on filmmaking. That's for our clients, the cinematographers, to decide. There is no rush! This is a new medium that will develop over time in the hands of creative communities.

"The idea that this or any camera can be used successfully by people who don't know how to light almost defies imagination. We have seen what happens if you don't have the ability to light: it looks like something shot by a hobbyist with a home-video camera. The same holds true for our film cameras. Without the artistry and know-how of the cinematographer, it doesn't matter what equipment you use."



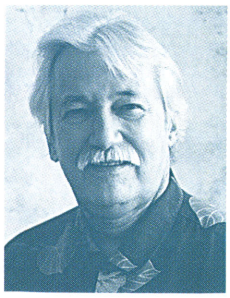
Peter Abel

Abel Cine Tech

"I don't believe that just because it's within more people's financial reach to record some kind of a motion-picture image, just anybody can be successful doing it. In fact, I think it's just the opposite; the more prevalent images are on TV and on the Internet, the more important it will be for them to be the product of creative and talented minds. It will become increasingly difficult to stand out from the clutter.

"The fact that there are more tools available to make motion picture images doesn't mean that artistry and craft are less important. It's like graphic design, when people moved from pencil and paper to computers. It's still the great designers that are successful.

"The good film schools understand this and teach traditional methods. I don't think any of the first-rate film schools are buying into this idea that grabbing a camera and just shooting anything can pass as filmmaking."



Denny Clairmont

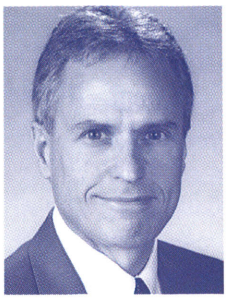
President
Clairmont Camera

"There's a lot of discussion about today's video cameras. Anybody can pick up a video camera and get an image. That's true, but anyone can also pick up one of today's film cameras and get an image on film, that doesn't mean it's a pretty image, an artistic image or an efficient image. That's where the artists and skilled technicians take over.

"There will probably be a place for the 1080p 24 format, and we intend to get involved with it if cinematographers decide they want to add it to their palette. Meanwhile, we have invested $15 million in the new line of Arricam film cameras [from the merged Arriflex and Moviecam companies]. New film camera purchases take about 10 years to break even, so we clearly expect film to be very important in the industry for at least that long.

"The interest in cinematography as an art form is stronger today than it's ever been. When my brother Terry got his union card [in the International Cinematographers Guild] in the early 1970s, I think there were about 130 members rated as cinematographers and the average age was mid-to-late 60s. I'm guessing there are more than 1,000 cinematographers in the guild today, and I suspect the average age is closer to early 40s. There's more interest from young people than ever, and more are coming into the industry each year."

Preservationists

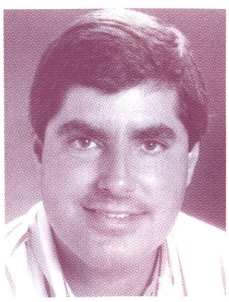


Grover Crisp

Vice President of Asset Management
and Film Restoration
Sony Pictures Entertainment

"The studio owns the titles and the rights to exploit them, but to maintain the artistic integrity of the original intent and achievement we feel it is essential to keep the filmmakers, especially cinematographers, involved on restoration projects whenever possible.

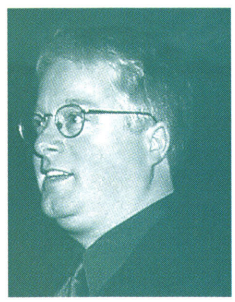
"This really came home to me a couple of years ago when Laszlo Kovacs needed a print of *Easy Rider* to show at a film festival where he was getting an award. We had a print, but it wasn't in very good shape. We were just starting the restoration of the film, and I showed him a print early in the process. There were clearly places where our timing was not exactly representative of his intentions when he shot the film. In a couple of places, we were going for detail in the shadows and, from his perspective, these were shots where he and the director didn't intend for the audience to see those details. His guidance in this area became integral to the final restoration of the film. Additionally, as the films stocks have changed over the last couple of years, currently printing on Vision and Vision Premier, it's become even more important for input from the cinematographer to ensure that the timing applied to the new stocks is correct."



Phil Feiner

President
Pacific Title & Art

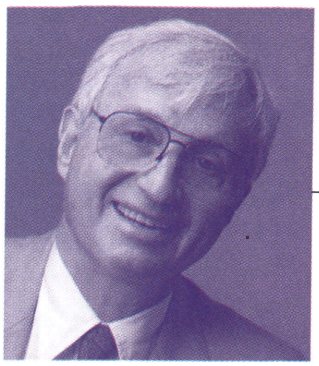
"While we are inventing the future, we have to be careful not to lose our heritage. The great films are a record of our culture and this art form. There is no proven digital archiving format, but digital technology gives us a great set of tools for restoring deteriorating or damaged film. My goal is to restore and preserve the original vision of the director and cinematographer. We try to find a reference. Maybe it is a print someone saved, or a written record of timing lights. It isn't easy, because the dyes and couplers in the older color films are different than what we have today. The surest way to preserve our heritage is to make silver separations from the negative, inspect them by making a print to ensure everything was done correctly, and store them in a proper environment. Do it right, and they'll be there for our ancestors thousands of years from now. That's one way they'll know who we were and what we thought."



Sean Coughlin

President
Cinetech

"If you are serious about preserving these films, you have to preserve them on film. Things might change, but today 'digital preservation' is an oxymoron. Properly stored film can last longer than any other media has been proven to last. Many video formats and digital file formats have already become obsolete. Digital media can actually be very unstable and, of course, you don't lose digital data gradually — it doesn't fade slowly. If you can't retrieve it completely, it's gone forever. I've seen that happen. On the other hand, I'm working on films from 1910 that are in excellent shape, and that tells me something."



COMMENTARY: SEARCHING FOR THE FUTURE

By **Victor J. Kemper,** ASC
President,
American Society of Cinematographers

Solitary prophecy is a risky business, according to J.B. Priestley, a popular novelist during the 1920s. Priestley observed that its main role is to give your descendents something to laugh about. The history of our industry gives us plenty of examples. "Film Is Dead!" was a banner headline on page one of *Daily Variety* in 1956 when Ampex invented videotape. Other predictions that went awry were as follows: Television will kill radio. Television will kill the cinema. Television will create a "theater in every house with benefits for children and cultural education." That last prediction was made in 1930 by David Sarnoff, the founder of NBC and RCA, who apparently didn't envision *Who Wants to Marry a Millionaire?.* A prediction was made that all movies in the future will be produced in 3-D format. All movies will be produced in Cinerama format. All movies will be produced in CinemaScope format. All movies and dramas for television will be produced and distributed in high-definition video format within 10 years. *The New York Times* made that last prediction in 1982. The moral is that if you are going to predict the future, you'd better have some grounding in the past. Otherwise you are destined to repeat the same mistakes.

The American Society of Cinematographers (ASC) brings a unique perspective to these issues. The ASC was founded in 1919, right after the dawn of the film industry. The original members organized out of necessity. They were collaborating on the invention of a powerful, new visual language for telling stories with moving images.

The ASC provided a forum for exchanging ideas and a platform for championing the pursuit of excellence in artful filmmaking. The record shows that the ASC relentlessly championed technological innovation as a means rather than an end. That heritage has been nurtured by each subsequent generation of ASC members.

We all have our own stories to tell. I was just beginning my career at a TV station in New Jersey when *Variety* published its premature obituary for film. I quit my job and paid my own way to Ampex headquarters in Redwood City, California, where I trained to become one of the world's first videographers. Within a few years, I realized that the doomsayers were wrong. I subsequently earned more than 50 narrative film credits and was honored in 1998 with a Lifetime Achievement Award by my ASC peers.

I'm optimistic about the future of cinematography. The real revolution is occurring in digital postproduction, where many cinematographers apply the final dabs of paint on the images they created during production. I'm certain that is a path to the future.

Many pundits also predict that digital camcorders and/or computers will inevitably replace film because they cost less. That's like saying painting will replace sculpting because it costs less. The truth is that film is a superior image-capture medium that provides a significantly different palette with more resolution and a broader range of contrast and colors. Someday there will be methods of image capture that can approach or equal the photography of motion-picture film. But until that day comes, we shouldn't settle for less than what motion picture negative can produce.

Photo by Douglas Kirkland

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STEVEN POSTER, ASC

Digital photo by Owen Roizman, ASC. using the Kodak DC-290.

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American Cinematographer

Crimes Against Humanity

Cinematographer Alain Dostie helps spotlight one of the 20th century's most riveting court trials in the TNT telefilm *Nuremberg.*

by Jean Oppenheimer

Unit photography by Jan Thijs

Alain Dostie moves easily between the worlds of television and feature film. A highly respected cinematographer whose work is well-known in Canada, the Quebec native catapulted to international prominence with *The Red Violin* (see *AC* Feb. '99), which earned him both the Genie Award and the Jutra (Canada's and Quebec's equivalents of the Oscars, respectively) for best cinematography in 1999. Six years earlier, he'd taken home his first Genie for *Thirty-Two Short Films About Glenn Gould.*

Dostie decided at age 14 that he wanted to make movies — the natural outgrowth of a childhood interest in photography. By the time he was 18, he and several friends had taught themselves the basics of 16mm filmmaking. "I was the only one who owned a light meter, so I became the cameraman," he laughs, speaking by phone from his home outside Montreal. After studying at the prestigious National Film Board of Canada, he began shooting documentaries, then shifted to features. His credits include *Images de Chine, Les Années de Rêves, The Gunrunner, Perfectly Normal, Le Party, L'Arche de*

Photos courtesy of TNT, Inc.

Verre, and *La Vengeance de la Femme en Noir*.

If making a feature film is demanding, keeping to a TV production schedule borders on the ludicrous. Dostie describes the process by recalling the words of Luis Buñuel, who quipped, "Directing a movie is very simple: you do a compromise a minute and save the essential." *Nuremberg*, a four-hour miniseries which aired on Turner Network Television (TNT) July 16 and 17, had an 11-week shooting schedule, only three weeks of which was devoted to the courtroom trial that serves as the story's core.

Based on Joseph E. Persico's non-fiction best-seller *Nuremberg: Infamy on Trial*, the two-part movie recounts the first war crimes tribunal in history, at which 21 members of the Nazi high command — including Hermann Goering, Rudolf Hess and Albert Speer — were charged with committing crimes against humanity. The film focuses on Robert Jackson (played by Alec Baldwin, who also acted as executive producer), the U.S. Supreme Court associate justice who headed the prosecution team at the 11-month trial, which commenced in Nuremberg, Germany, in November 1945. While the TNT movie covers a couple of key strategy sessions held by the Allied representatives, as well as the effect of the trial on the German defendants, the picture's emphasis is on the trial itself and on Jackson's determination to present as fair a trial as possible to ensure that the proceedings would carry moral weight and not be dismissed as a case of the war's "winners" punishing the "losers."

Constructed in a warehouse in Montreal (because no soundstage big enough was available), the movie's courtroom was almost an exact replica of the Palace of Justice in Nuremberg, where the trial was held 55 years ago. Slightly smaller than the original, it was still an enormous space, more than 150' long. "History helped us, in a way," Dostie notes. "The city of Nuremberg was almost completely demolished [by Allied bombing] except for the courthouse, which was damaged but still standing. In repairing the building, the U.S. Army had one additional consideration: the trials were to be filmed and photographed by film agencies and reporters, and those in charge did not want flashbulbs used. Therefore, they needed a lot of light in the courtroom.

"Fluorescents had just been invented, so they covered the ceiling with fluorescent lights. [You can] see them in the shots of our courtroom. We used Optima 32s and put the ballast outside the set so we didn't have the hum. In addition, I had four enormous windows, each 18 feet high, situated behind the judges — just as they were in the Palace of Justice. We placed 10Ks and 20Ks on scaffolding outside the windows."

The level of brightness in the room remained fairly constant throughout the film because the fluorescents, which provided the main illumination, were always on. Dostie says he would have liked to have varied the brightness coming through the windows to suggest sunnier days or the passing of seasons, but that it wasn't possible given the time constraints. "In real life, you would have seen the sky

Opposite page: U.S. Supreme Court Associate Justice Robert Jackson (Alec Baldwin) questions a witness in *Nuremberg*. Jackson headed the prosecution during the 11-month trial. This page, top: Jackson, his assistant Elsie Douglas (Jill Hennessy) and his team listen to testimony. Bottom: The accused watch and listen to the proceedings. The courtroom for the production was constructed in a Montreal warehouse and was just slightly smaller than the Palace of Justice in Nuremberg.

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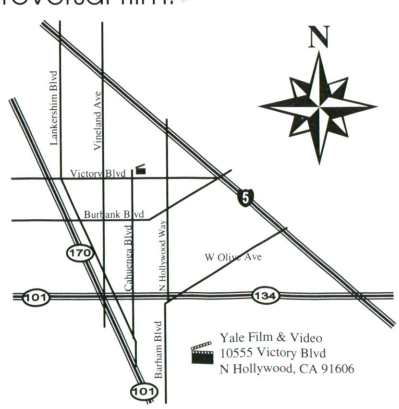

Crimes Against Humanity

Director Yves Simoneau, left, and cinematographer Alain Dostie take a break between setups.

through the windows, but we had no way of putting up a photograph or set," he recalls with a sigh. "We had to burn the windows so you couldn't see anything outside, which to me always says 'set.'" The only changes he could make were a subtle shift in the level of brightness coming through the windows and the use of small, green practical lamps on various tables in the courtroom, which were sometimes on and sometimes off.

Other than a bit of fill light, Dostie almost never uses lamps when shooting day exteriors, explaining that he likes scenes to look as natural as possible. Interiors are equally simple: light through windows and provide a bit of fill. He tries to avoid hanging lights from the ceiling. "I have never worked like that," he admits. "Lights from the top is the old way of lighting on a stage, and it looks like a movie to me. You usually have to [do it on TV projects] because it's quick and easy, but I don't like the look and try to avoid it.

"I am not puritanical, but there is a certain logic to lighting," he continues. "You can cheat a lot, as long as it makes sense. I prefer a very small amount of light that comes from only one direction. If it's physically possible for light to just come from the right spot, then that's all I do."

In order to help give the wood-paneled courtroom a warm feeling, production designer Guy Lalande stained the wood brown with a slight hint of red. Simply lighting that setting produced the desired warmth, and Dostie never had to use any filtration in front of the bulbs. In addition to the courtroom, Dostie wanted the prosecution team's offices and houses (most of which were also wood-paneled) to have a warm feel, more yellow than red.

By contrast, scenes involving the Nazi defendants were kept very cold. "The jail cells, the prisoners' dorm and dining areas, and all of the scenes with Goering [played by Brian Cox] were cold," confirms Dostie. "That look came almost naturally because the sets — the cells, the corridors, the dining area — as well as the bad guys' wardrobe were all bluish-gray. I just went with that and made it even colder by using ¼ and ½ blue gels, which helped make the skin tones quite whitish."

Dostie and director Yves Simoneau, who have made three features and numerous commercials together, watched hours of archival footage to get a feel for the period. Dostie admits that he would have preferred shooting the film in black-and-white, but that was impossible.

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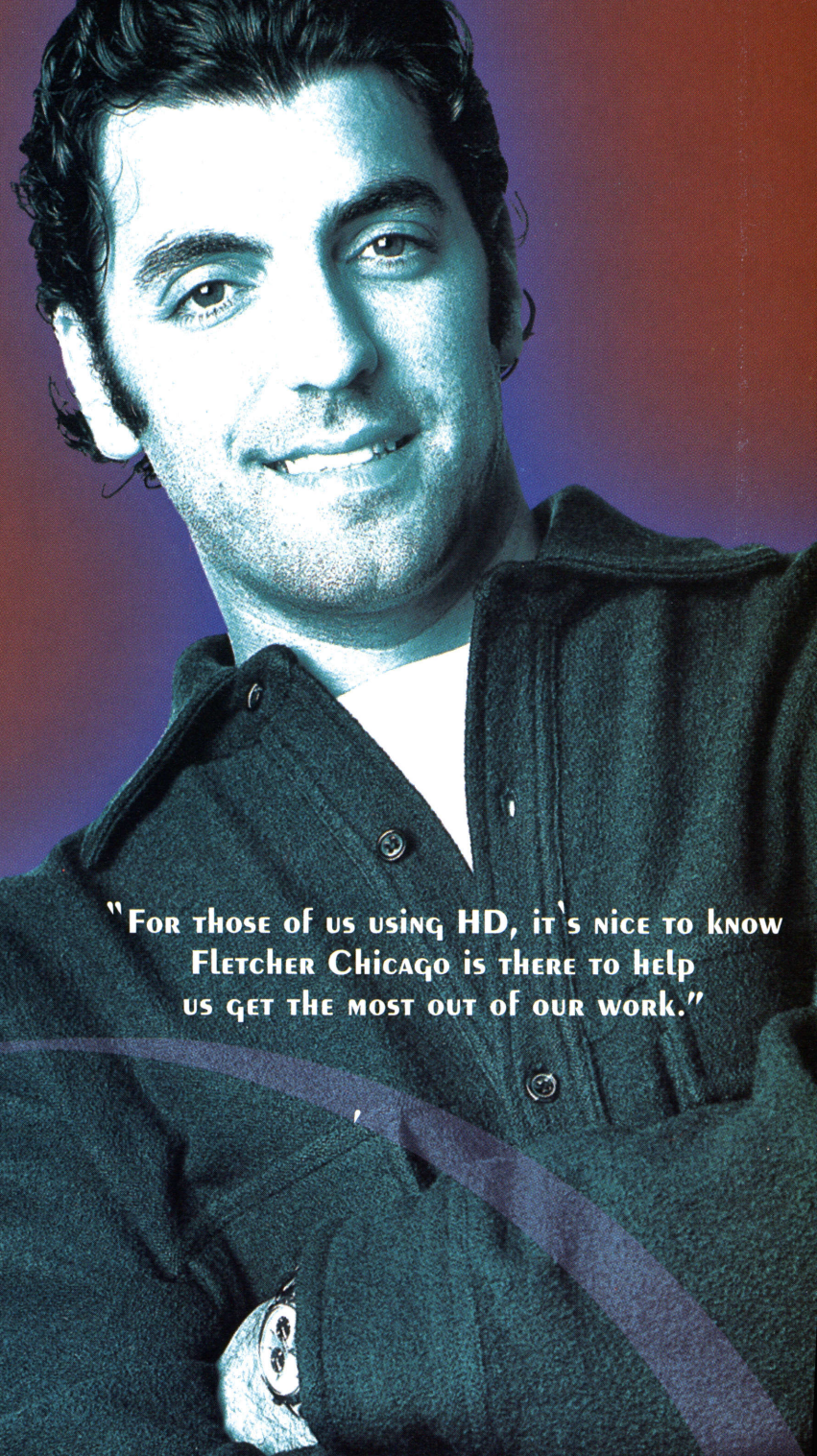

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American Cinematographer

Crimes Against Humanity

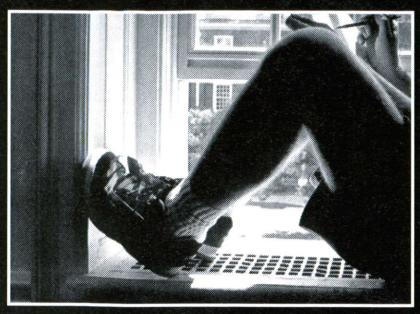
"It's kind of a convention: TV is in color," he laments. "There is no discussion." However, a small amount of black-and-white footage was incorporated into the movie.

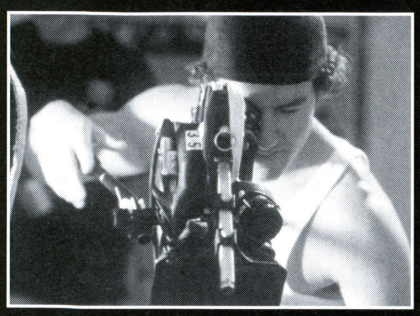
The cinematographer chose Fuji film for *Nuremberg*. "Fuji tends to have an old-fashioned look, a kind of beige-yellowish tint, that I thought went well with what we were filming," he says. "I am very happy with the result." The courtroom scenes and all night sequences were shot on Fuji Super F-500 8571. Fuji Super F-250 8551 was the choice for most of the other interiors, while Fuji Super F-125 8532 was used for day exteriors and a few interiors.

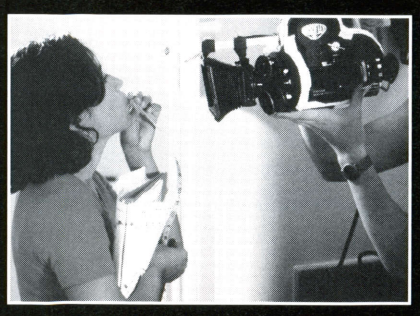
The picture was shot before Zeiss introduced its new line of Ultra Primes, so Dostie used the old, standard speed lenses. "Although they are fantastic on definition, they tend to have a hard edge, so whenever I use them I use UC [Ultra Contrast] filters by Tiffen," he notes. "I consider that filter to be part of the lens. It's not diffusion; it's what they call low contrast, so the blacks stay black and there is no glow around the eyelights."

Knowing that Simoneau likes to use wide-angle lenses, Dostie tended to keep a 14mm or 18mm on the A-camera, a Moviecam SL. The B-camera, another SL, sported a new Angenieux HR 25-250mm zoom.

Given its subject matter and setting, *Nuremberg* is an unusually "talky" film, with long stretches — sometimes comprising four or five script pages — of continuous dialogue and practically no action. Simoneau wanted to do a lot of coverage in order to give editor Yves Langlois as many choices as possible. "There are many static shots," Dostie concedes. "We were afraid of that, so when we came out of the courtroom into corridors or going into offices we tried to walk as much as possible. We did lots of Steadicam. Francois Daignault, who operated the B-camera, is a Steadicam operator.







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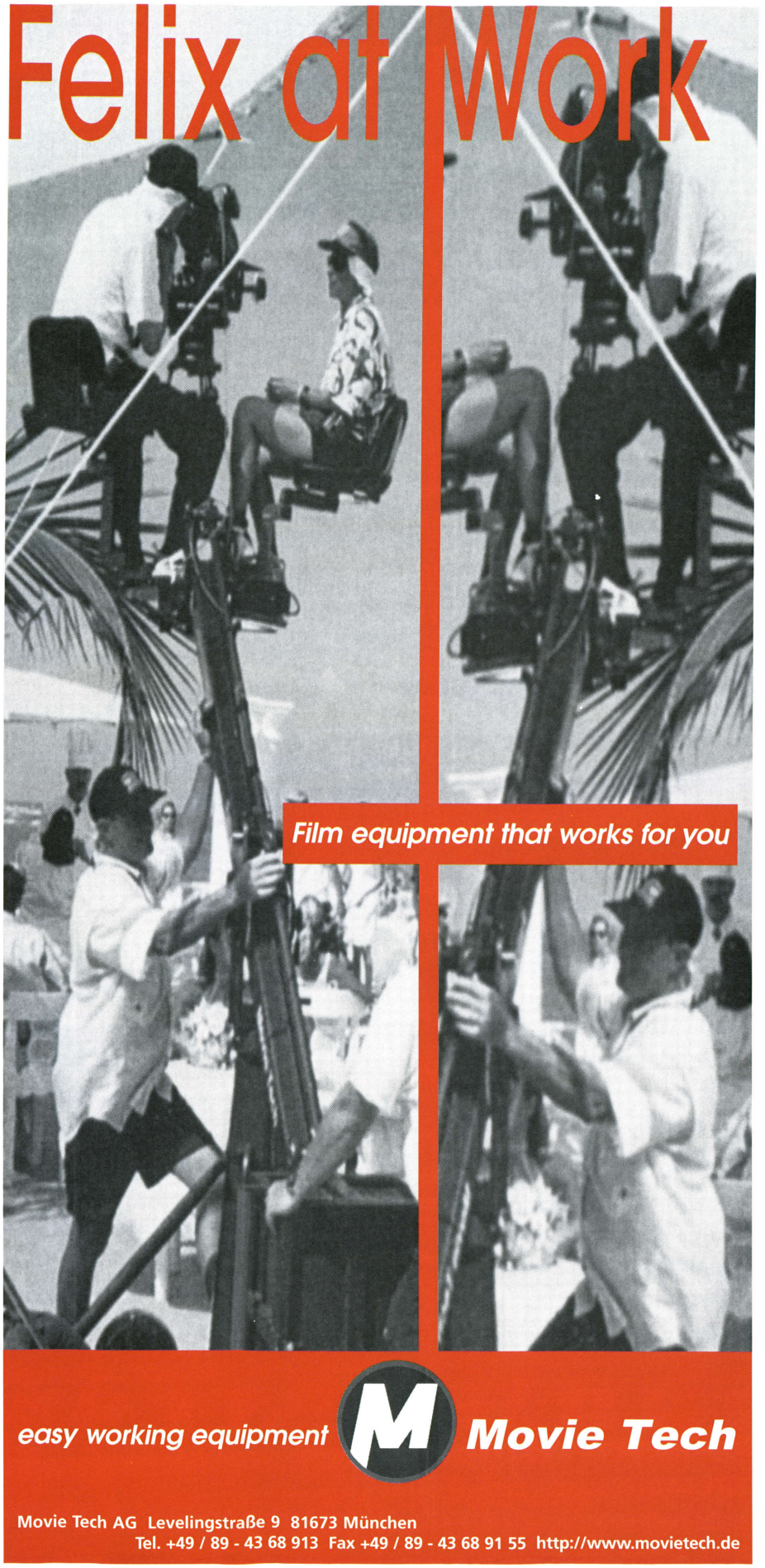

Crimes Against Humanity

Sylvaine Dufaux, with whom I have worked for many years, was on A-camera; she started as my assistant and has become my main operator. Both of them are superb." Gaffer Claud Fortier and key grip Jean Maurice De Ernsted, both of whom have worked previously with Dostie, were also singled out for praise.

One of the most remarkable shots in the film was actually one of the least complicated. Early on, the defendants are brought to a large holding area inside the prison. Although most of the jail scenes were shot at an old prison outside Montreal, this particular sequence was shot at an abandoned milk factory. "The men are brought up in a freight elevator," details Dostie. "There is a gate with bars where the lift stops. We just waited in front of the gate with the Steadicam. There was no closed roof, just wooden beams above the lift, so I could have a big light shining down on the men as the lift rose." The bars create a bold pattern. The elevator rises and the men ascend into view behind the bars. The pattern of the bars, the sense of movement from the rising elevator and the movement of the Steadicam backing up as the lift stops and the men disembark combine to create a surreal swirl of activity and design.

A remote crane was used extensively throughout the picture, partly to lend a sense of movement and partly to provide good overall views of various locations. One corner of the courtroom ceiling was removable. Dostie threw a wide-angle lens on the camera and got off a few establishing shots before craning down for the rest of the scene.

The crane also came in handy for exterior scenes of rubble. "We saw thousands of feet of period footage of Europe completely demolished, and we had to re-create that look," Dostie says. "Although there is a little bit of CGI, we built a three-block set [and drove through it]. We found a

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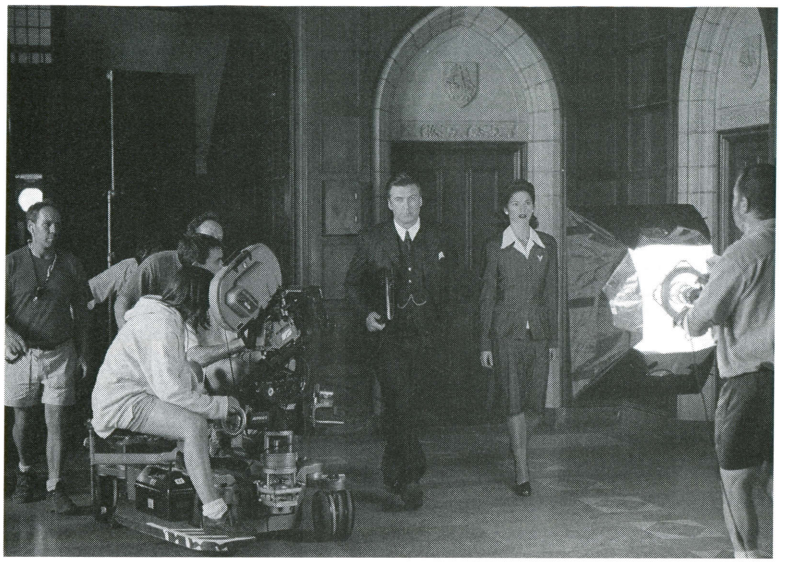
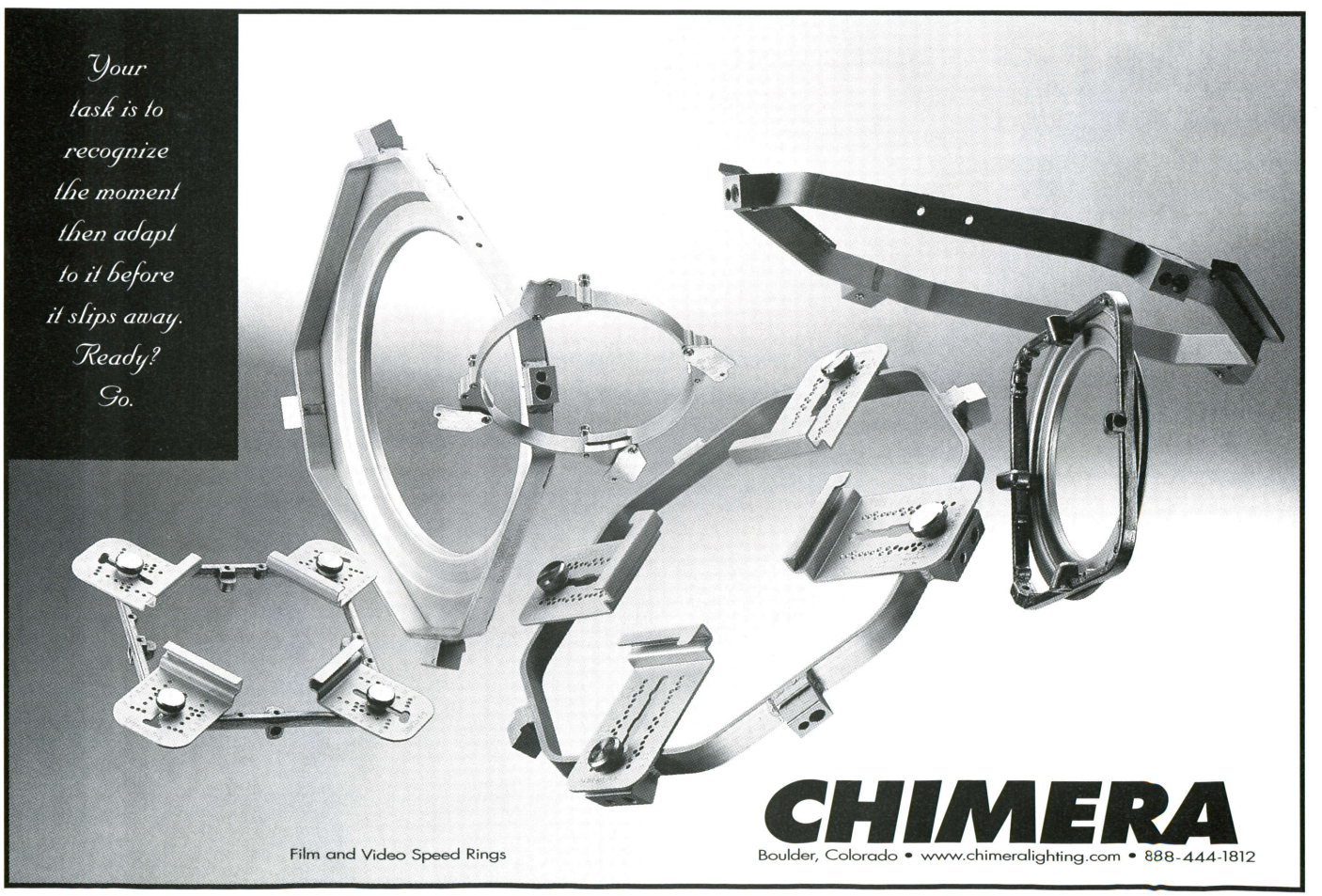


This page: The camera follows Jackson and Douglas as they head to work. "There are many static shots [in the film], so when we came out of the courtroom into corridors we tried to walk as much as possible," recalls cinematographer Alain Dostie. Opposite page: Simoneau, center, watches as actors Frank Burns, left, and Herbert Khaup run through a scene.

recently abandoned factory outside Montreal that had been demolished, but the debris hadn't been cleaned up. We simply moved the piles of rubble around with a bulldozer and then built sets on top of that. I am particularly pleased with those sequences."

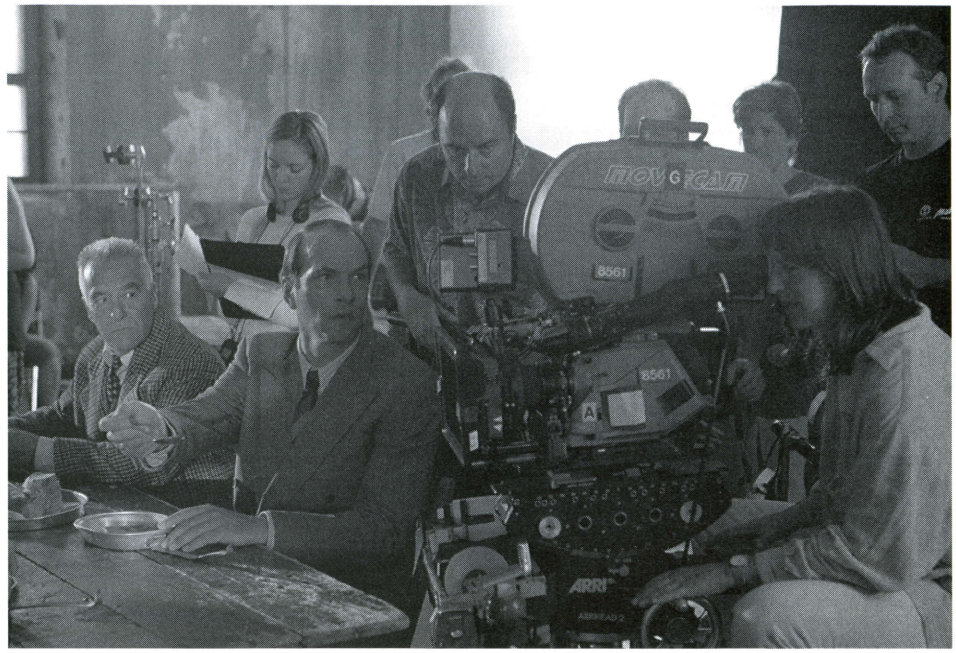
All of the sets were practical locations except the courtroom and two jail cells, and the latter were constructed because the real prison cells proved too small to facilitate camera moves. Because most of these sites — such as a milk factory, a 200-year-old mansion since converted into a fancy club, and the real penitentiary — had enormous windows, they required almost no additional lighting. Dostie's recipe was the same for all locations: enormous fixtures through the windows and a bit of fill light. Occasionally he added ⅛, ¼ or ½ CTS to warm up the light at the end of the day.

Two scenes were shot on the top floor of a recently shuttered Montreal department store that was transformed into a stately restaurant, whose interior was copied from an opulent, turn-of-the-century ocean liner. The ceiling was 60' high, and Dostie floated two helium balloon lights that filled the whole place with soft light. The only additional illumination came from a few round globes that were part of the department store's décor and small, practical lamps that were placed on each

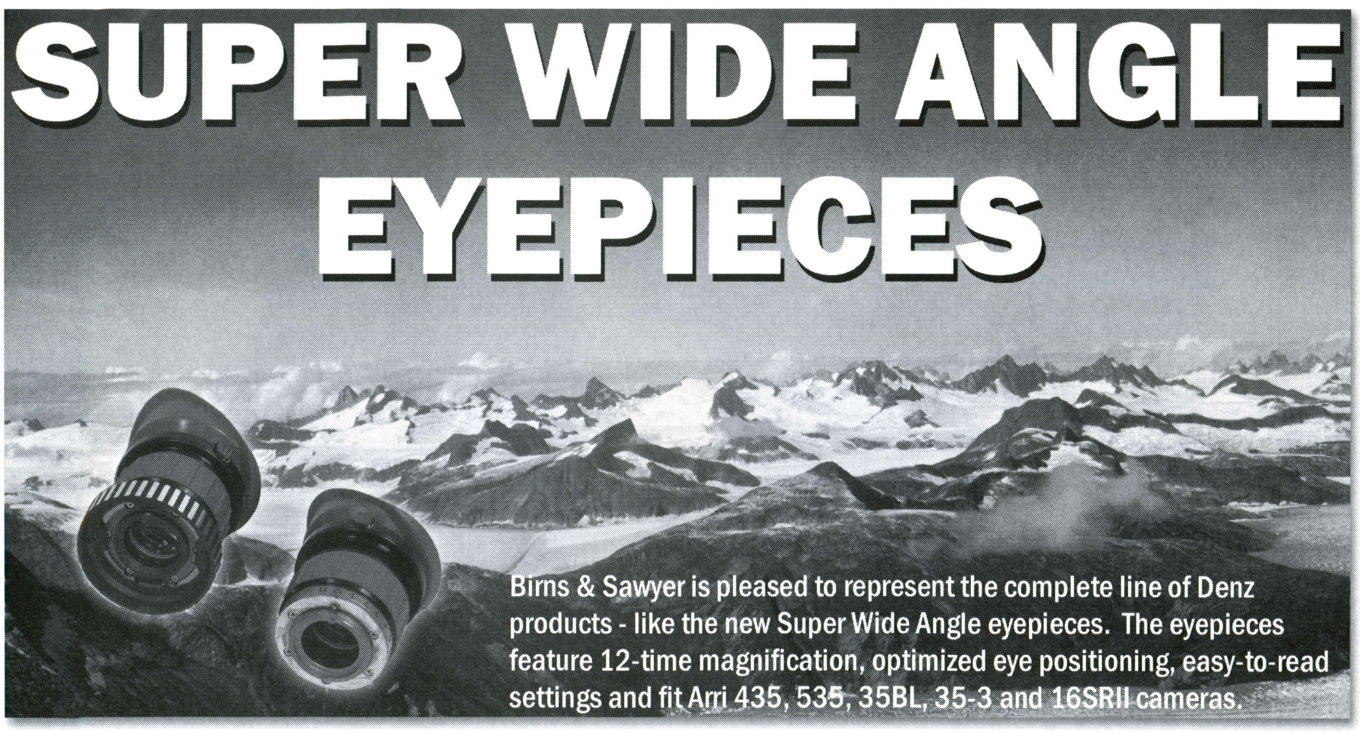


dining table.

The film's single somewhat whimsical sequence takes place at a small military airport, ostensibly outside Washington, D.C., where Jackson and his assistant, Elsie Douglas (Jill Hennessy), are about to board a plane for Germany. The fog, the set, the angle of the shot, the propeller plane in the background and the two characters (Elsie wears a wide-brimmed hat that half covers her eyes) seem to have leapt straight out of *Casablanca*. Dostie laughs when asked about the similarity, saying, "We were too poor to build a hangar and barracks, so we added fog, sandbags and jeeps. It was a little joke, just for fun."



Nuremberg's straightforward, rather austere style is a marked contrast to the sumptuous elegance of *The Red Violin*. Assessing the very different styles required by the two projects, Dostie maintains, "I am not there to please myself, to look good or to look smart. *Nuremberg* is an historical film. That isn't a limit, but rather an inspiration. The cinematographer is always there to serve the film." ■



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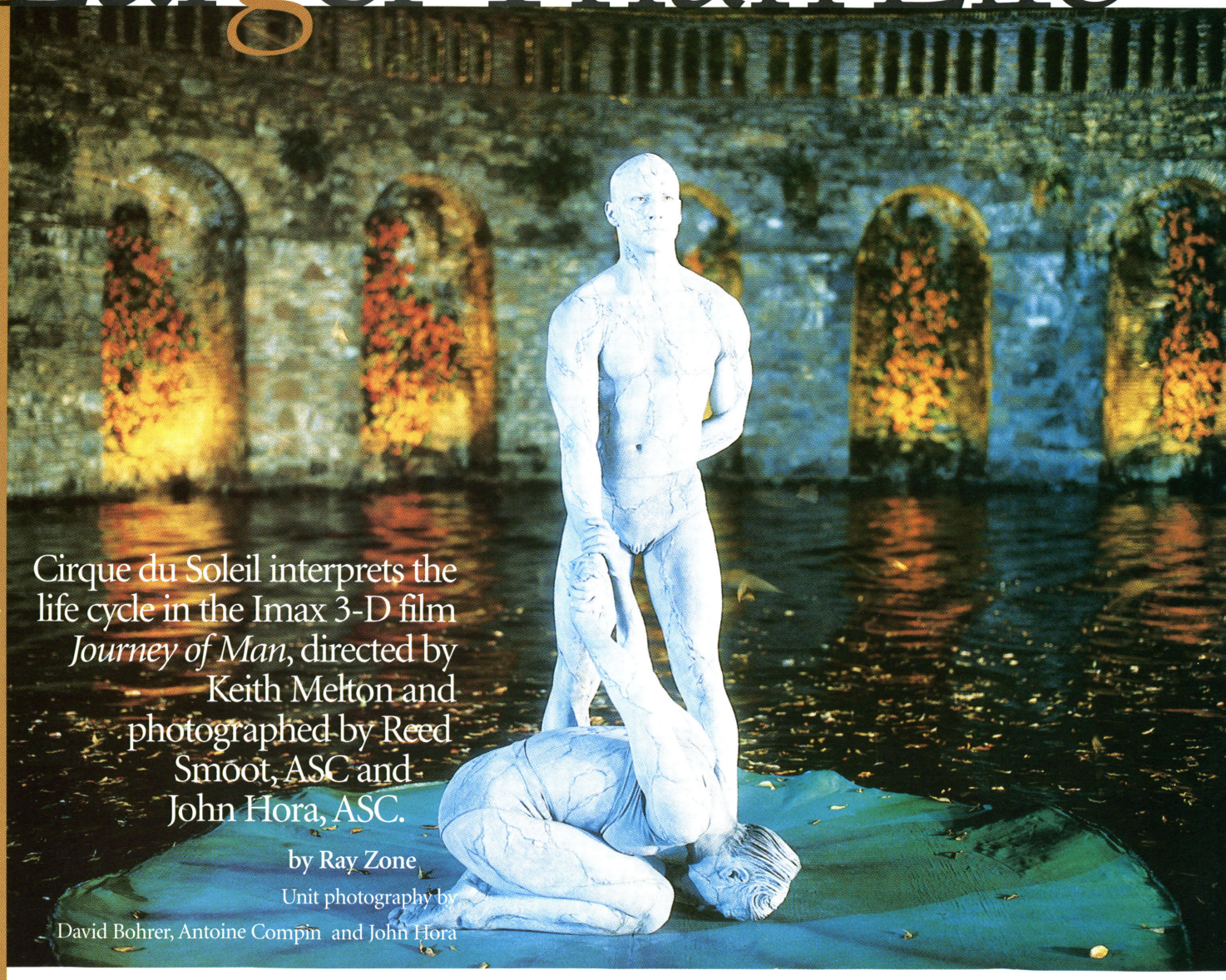


Cirque du Soleil interprets the life cycle in the Imax 3-D film *Journey of Man*, directed by Keith Melton and photographed by Reed Smoot, ASC and John Hora, ASC.

by Ray Zone

Unit photography by David Bohrer, Antoine Compin and John Hora

Audiences expect a 3-D movie to have things playing into their faces," says director Keith Melton. "But with *Journey of Man* we were going for something a little more sophisticated."

Cirque du Soleil: Journey of Man, a Sony Pictures Classics' large-format 3-D film currently in release, presents some of the most stunning 3-D images seen to date on the Imax screen. With Reed Smoot, ASC and John Hora, ASC serving as directors of photography, it was filmed over four months using the Imax Solido twin 15/65 camera. An Iwerks twin-camera 8-perf/65mm 3-D rig designed by Steve Hines of Hineslab in Glendale, California, was also used for certain scenes to create a specific effect.

"What was interesting for me," says Smoot, "was the increased opportunity to capture the live nature of the Cirque du Soleil experience. The real locations and the 3-D in a large format give the film a stylistic

twist that does much to capture that live aspect." Recently inducted into the ASC (see From the Clubhouse, page 174), Smoot has served as director of photography on more than 40 films in the past 25 years. He is especially known for his work with the large-format film, but *Journey of Man* is his first 3-D effort. "I was fortunate to have a chance to jump right into 3-D with some very experienced people around me," he says.

Journey of Man presents depth, color, form and motion as natural parts of a stylistic whole, celebrating the human spirit by tracing the stages of human development from birth to maturity. Each stage of life is introduced by a Cirque du Soleil act. The odyssey begins with the appearance of an embryonic child amid a tribal cave of Taiko drummers. Birth is represented by synchronized swimmers in a dazzling underwater sequence, and that is followed by childhood, a sequence in which the Flounes (two clowns representing the instincts), introduce the child to his emotions in the world of nature. The gradually aging child encounters yellow, bird-like creatures diving Bungee-style from the treetops in a forest and then proceeds to adolescence, where he is drawn to manhood by the Cube Man.

After discovering the power of love in a water garden with a graceful Statue Act, the young man is tempted with greed by the demon-like Stiltman. Then, as he gets older, he discovers the Banquine, who put on a rousing display of phenomenal acrobatic feats. The final stop on the journey is the Brandenburg Gate in Berlin, which signifies hope for the future of mankind.

For 3-D and visual-effects supervisor Peter Anderson, ASC, *Journey of Man* was a labor of love. "We had an opportunity to make use of the new Imax Solido's converging lenses," he says. "We dealt with lighting, color and composition to maximize the 3-D experience." By toeing-in, or converging the lenses of the two cameras in the single-body Imax camera, the 3-D imagery on screen can be made to play in the deep space behind the screen.

Anderson, a veteran of 48 large-format productions, 40 feature films and hundreds of hours of prime-time television, is especially passionate about his work with large-format 3-D. "Imax is the most immersive screen in the world, and you do not see the edge of the screen," he notes. "I love to play with the depth axis." With the Imax 3-D film projected onto a screen more than 70' high and 90' wide, that is considerable screen space.

"3-D delivery systems can present a problem with 'ghosting' [high-contrast areas in the film that tend to leak from one eye to the other when viewed in 3-D on a large screen]," notes Anderson. "On *Journey of Man* we were able to use the new converging lenses to both minimize ghosting and play very deep scenes. Keith Melton under-

Opposite page: The Statue Act sequence in *Journey of Man* was shot in the garden of a private estate in Northern California. The reflecting pool was drained and refilled with water and organic black dye to create a more dramatic look. This page, top: The Flounes, representing our instincts, invite the child on a magical journey. Below: A close-up of one of the Bungees, bird-like creatures who live among the redwoods, details costume and make-up.

Photos courtesy of Sony Pictures Classics

Larger Than Life

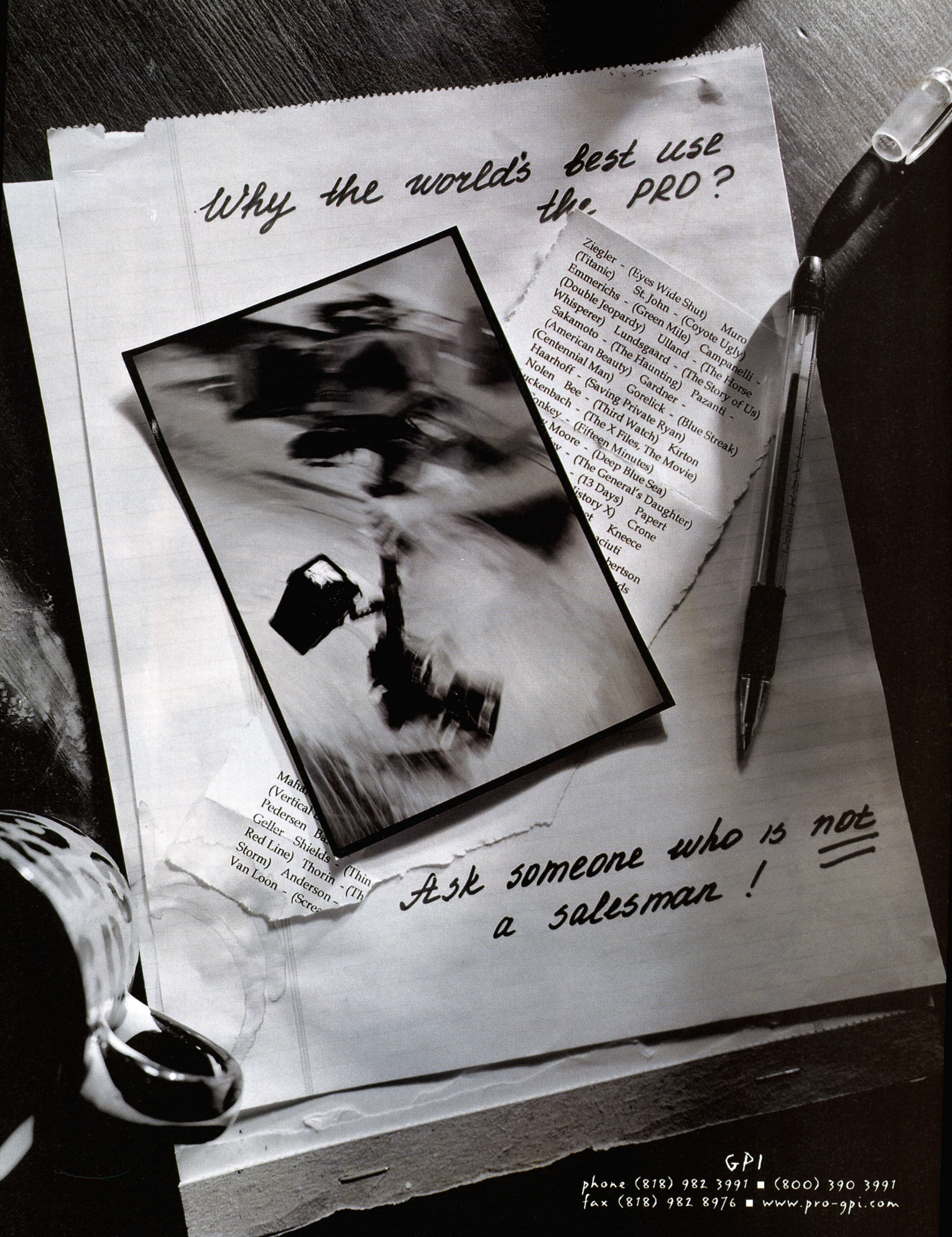
The Banquine Sequence was filmed at Severance Hall, home of the Cleveland Orchestra. At right, the Flounes appear to take the now-adult boy to the next phase of the journey. Below left is an actual frame of Imax 3-D film, and next to it is a behind-the-scenes shot of the crew setting up for the sequence.

stands that the whole show doesn't have to play 'in your face.'"

By consulting with production designer John Zachary and the costume designers early in preproduction, Anderson and Melton were able to avoid the use of solid white, which would have been problematic in projecting the 3-D film. The costume color for the Bungee jumpers in the forest sequence, for example, was changed from white to yellow. With considerable onscreen parallax in this sequence, the yellow costumes are much more "friendly" to 3-D projection. Similarly, the living statues in the water-garden sequence were changed from white to more of a marble color.

Journey of Man is Anderson and Melton's fifth large-format 3-D collaboration. They first worked together on Iwerks Entertainment's *Haunts of the Olde Country,* and more recently on Busch Entertainment's *Pirates*, which was shot with dual 65mm cameras; Anderson was the director of photography on both films. "Over the past 20 3-D films and with *Pirates*, we've been able to make improvements in how the audience responds to 3-D," Anderson says. "We've been able to keep improving the systems."

Hora served as director of photography on the Banquine sequence, which was filmed first because of the performers' availability. Smoot was not available at the time this sequence was shot, and Hora, a 3-D enthusiast, was happy to step in. Hora's first experience filming 3-D was in 1981, when he shot tests for a remake of *The Creature From the Black Lagoon* that Joe Dante was to direct. Dante and Hora met with Jack Arnold, director of the 1953 original, and Hora shot tests with the over/under single-strip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BINOCULAR FREEVISION

by Ray Zone

There are two ways of viewing the 3-D images on this page stereoscopically without a viewing aid. The two images shown above may be viewed using the PARALLEL method of 3-D freevision. The two images shown below may be viewed using the CROSS-EYE approach.

PARALLEL FREEVISION

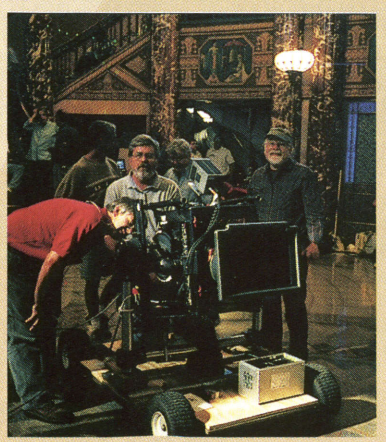
(Use only left and right images at top of page):

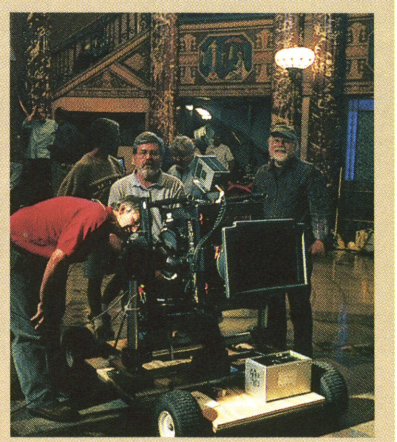
Focus across the room. Gradually raise the magazine into your line of vision while holding focus at distance. The left-hand image should be directly in front of your left eye and the right-hand image should be directly in front of your right eye. Don't focus until you notice an additional image that has formed in your field of vision. This is the 3-D image. Now focus on it.

CROSS-EYE FREEVISION

(Use only left and right images at bottom of page):

Place magazine directly in front of you so that the left-hand image is directly in front of your left eye and the right-hand image is in front of your right eye. Hold your index finger up in front of your eyes halfway to the magazine, directly over the dividing line between the two images. Bring the magazine close to your face. Focus on your finger and notice that an additional image forms between the two. This is the 3-D image. Now focus on it.





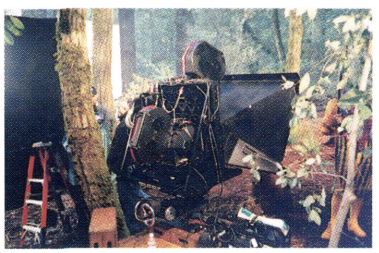
Stereovision process. Although the cinematographer hoped to shoot additional tests with Robert Bernier's SpaceVision single-strip system, he recalls that the boom in 3-D production at that time made it too difficult to acquire the equipment.

The location selected for the Banquine portion of *Journey of Man* was Severance Hall, home to the Cleveland Orchestra, an opulent building with an unobstructed 40'-high ceiling that would allow the Banquine to perform their four-high acrobatic formations. Lighting such a large space proved quite a challenge for the camera crew, and it was not easy to keep the lights out of the field of view with the wide lens of the Imax 3-D camera. An additional technique used in this sequence to minimize ghosting was to apply brass polish to highly reflective surfaces, letting it dry dull and leaving it on during shooting.

"I've had a lot of experience with large sets," says Hora. "But for the Banquine sequence we used more lights than I knew existed." *Journey of Man* was shot on Kodak Vision 500T 5279 rated at 500 ASA. Because of the unique, internal mirror system of the Imax Solido 3-D camera, about 1 ⅓ stops of light are lost. "We re-rated the film to 200 ASA," says gaffer Dwight Campbell, "and we tried to light Severance Hall with an average of 500 footcandles of ambient light."

Sharpness throughout the depth of field is always a good idea when filming in 3-D, and in order to stop down the aperture to f8 or f11, a lot of light is required. "We had six of everything," says Campbell of the lighting package — six 20Ks, six 10Ks, six Maxis, six Minis and six 20K Skypans.

The Imax 3-D camera has a fixed interocular, or distance between the two lenses, of 2.85"; 65mm or 2.5" is the average distance between the eyes of an adult. The first Imax 3-D films were shot with



Top: The Bungees drop from the tops of redwood trees — a challenging sequence to film, because state laws prohibit any activity that might damage the trees. Center, from left: Director Keith Melton, key grip Don Cerrone, co-producer Antoine Compin (partially hidden, wearing hat), 1st AC Doug Lavender, gaffer Dwight Campbell and 2nd AC Russel Bowie take a break. Left: The Iwerks 8-Perf 3-D rig in the redwood forest.

the two lenses "parallel" so that all of the imagery in projection came "off the screen." With the huge Imax screen and its wide field of view, the spectator tends not to notice the left and right edges of the screen. The new convergence controls on the Imax 3-D camera allow the director of photography to place some of the action "behind the screen" and select what is to come forward into the audience space.

The Imax 3-D camera uses two 15-perf movements of 65mm films in a single body with two 45-degree mirrors reflecting the left and right images onto the separate film strips. These two sets of horizontally traveling films are oriented with the emulsions facing each other. The two negatives can be contact-printed directly onto 70mm film and flopped over for projection in 3-D without

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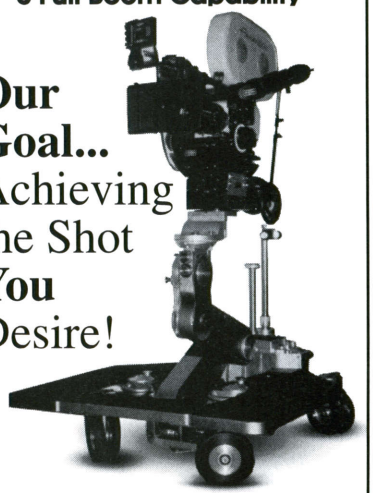

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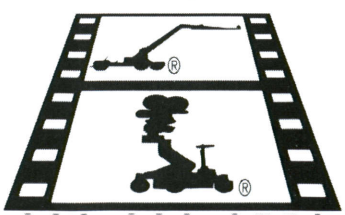

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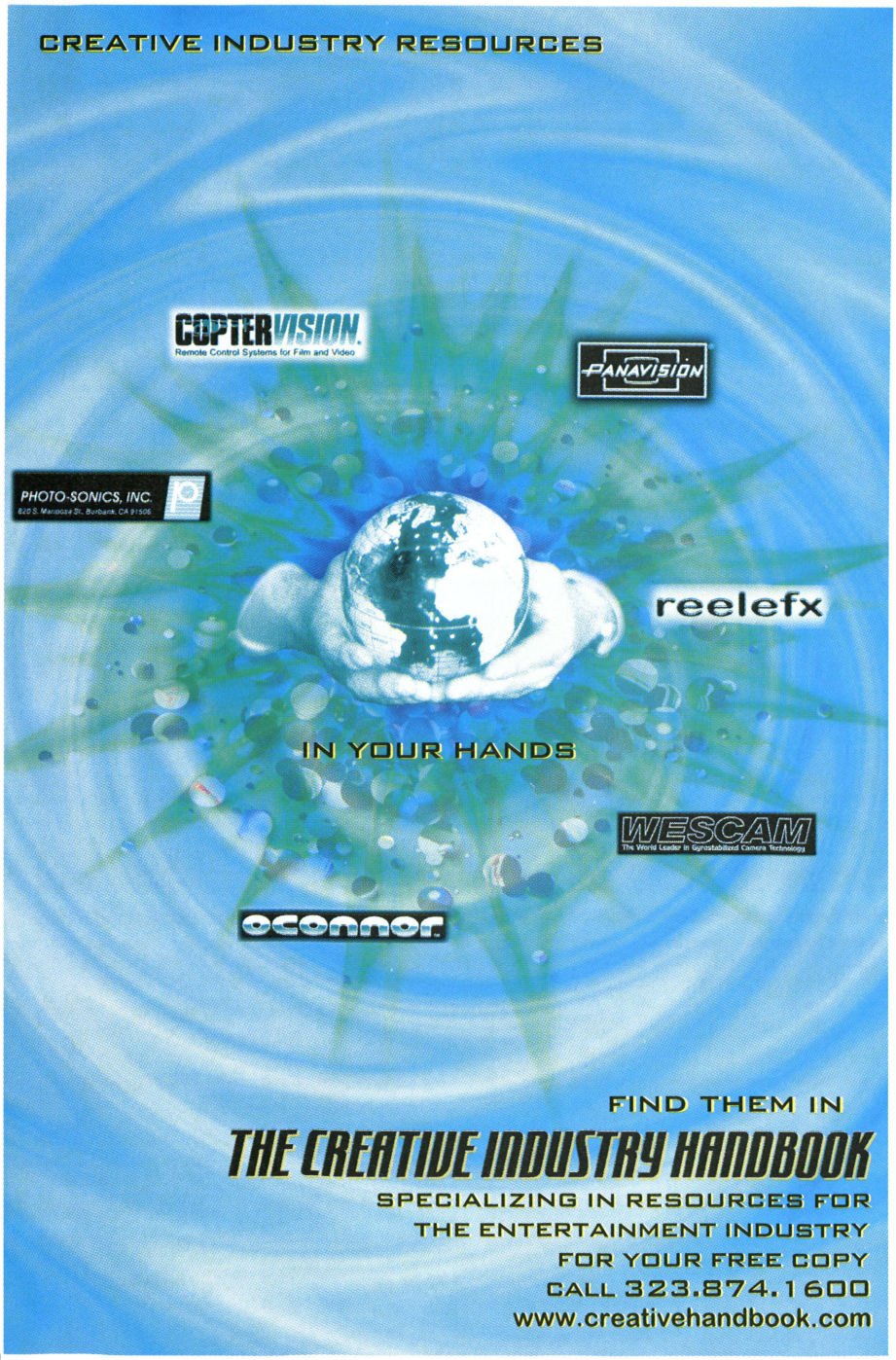


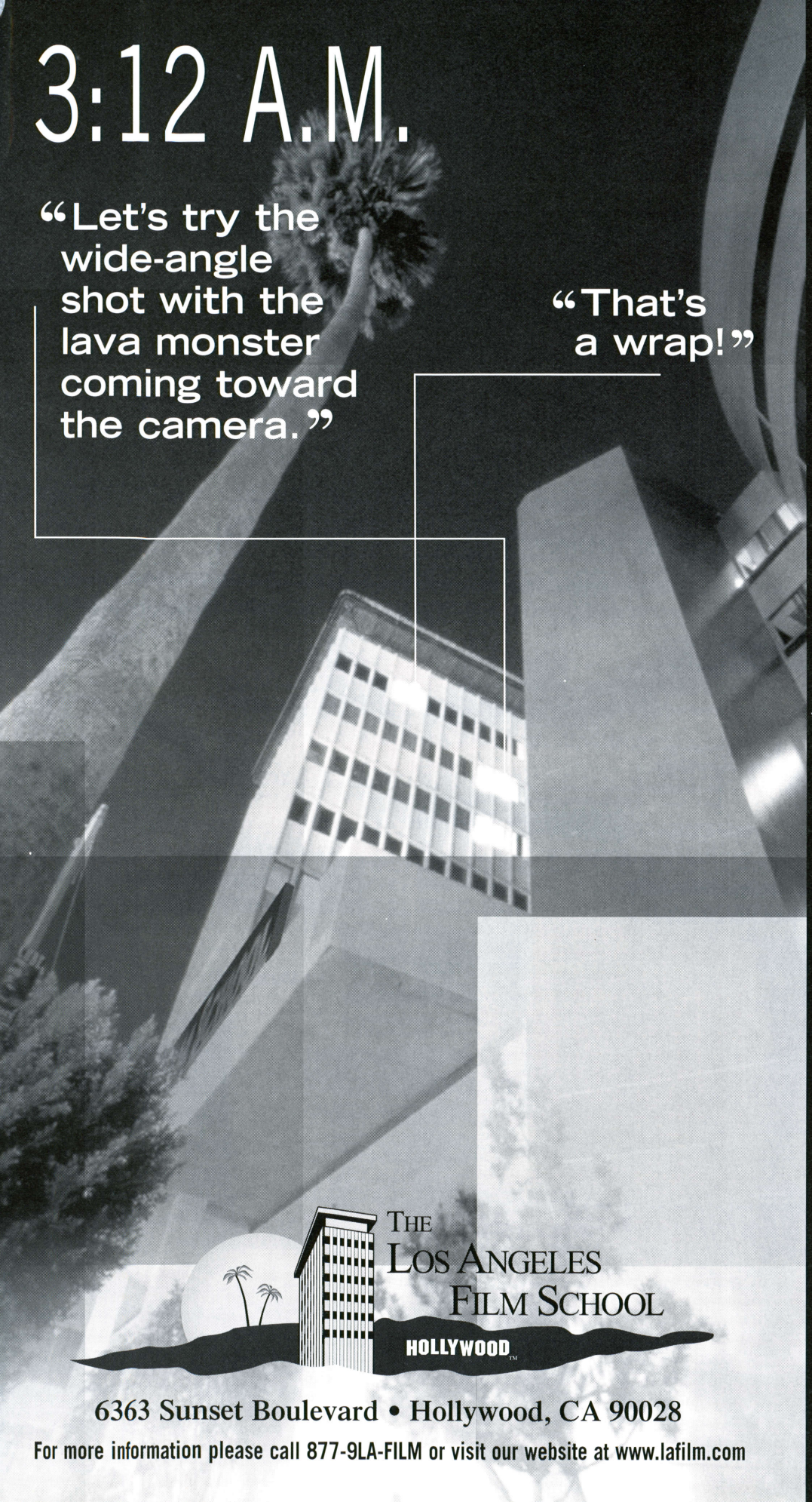
Larger Than Life

The Banquine performers perfect synchronized moves.

the need for any optical printing. Weighing more than 200 pounds, the Imax 3-D camera uses microcomputers that control half of its 14 motors. Both lenses and shutters are electronically synchronized by microprocessor controls. Several lens choices are available for the Imax 3-D camera, including 30mm "fish-eye" and 40mm (non-converging) lenses, as well as 50mm, 60mm, 80mm and 105mm lengths.

The first scene in *Journey of Man*, set in a cave with the Taiko drummers, was filmed on a soundstage in Las Vegas, and it is the only scene that was filmed on a set. The production had to accommodate the schedules of the performers, who were then working five days a week at Mystere in Las Vegas. The set was constructed out of sculpted Styrofoam, and the 30' x 40' cave was made in different sections. The sections were placed on a raised stage, and each of the eight drummers sat on a turntable that rotated during the sequence.

The birth sequence features an explosion of light that plunges the viewer into a dazzling underwater ballet with synchronized swimmers. No underwater tank large enough to accommodate filming existed anywhere in the world, so this



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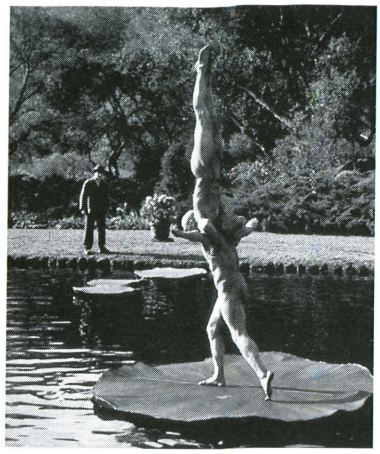
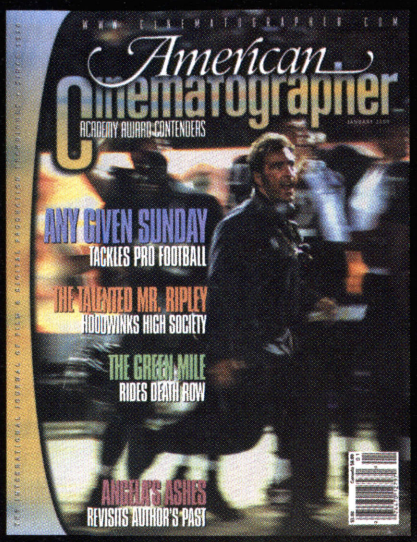


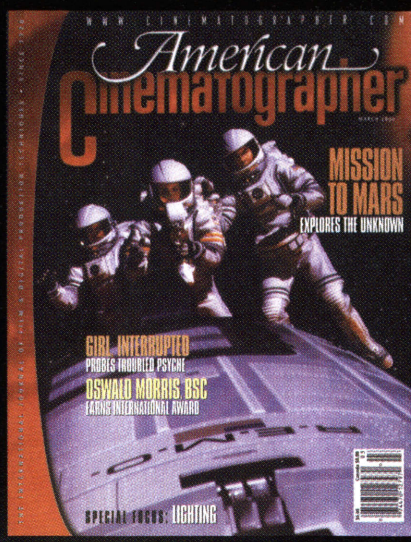
The Statue Act performers exhibit their strength and precision.

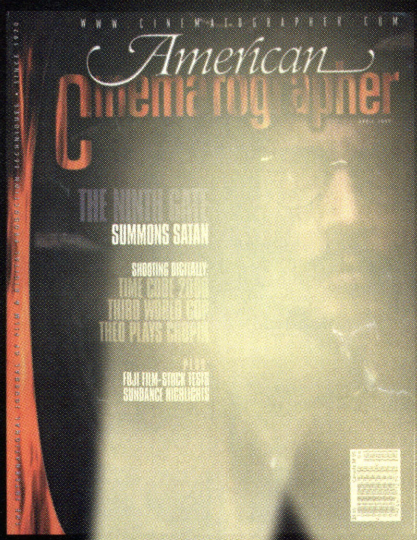
sequence had to be shot outdoors. Only a few locations in the world were suitable for filming in December, and the producers chose the Bahamas. Because the water was only 65 degrees, special suits were created to keep the swimmers warm. Weights were added to the suits to counteract the buoyancy of saltwater. The costumes included reflective materials that lent even more illumination to the scene.

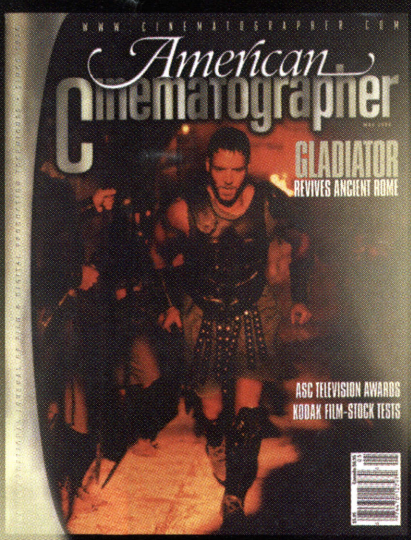
The underwater crew consisted of Melton, underwater cameraman Bob Cranston, three or four electricians and grips, seven underwater swimmers and two or three support divers. Assisting the swimmers, the support divers held large air tanks that each had four umbilical regulators attached. This sequence was shot over a period of six days, three for actual shooting.

The Imax 3-D camera was fitted into an underwater housing and equipped with two 2,500' film loads. It was suspended by a crane and lowered from a boat into the water. Weights were attached to the camera, allowing the operator to maintain balance while floating in the water. Changing daylight conditions made underwater exposures quite variable. "We used four 8K submersible lights running off a generator on a barge," says Campbell. "We needed fill light to put exposure into the suits of the swimmers, who









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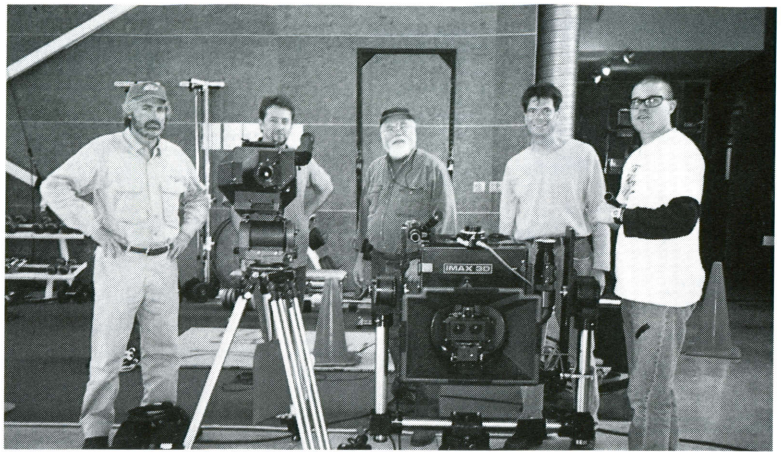


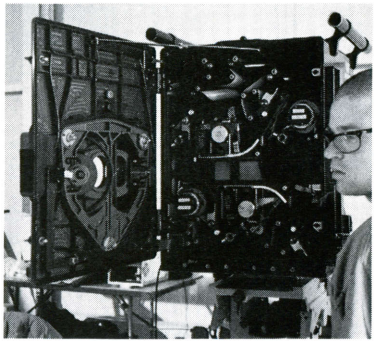
In near right photo, from left, director of photography Reed Smoot, ASC; director Keith Melton; 3-D Supervisor Peter Anderson, ASC; 1st AC Doug Lavender, and 2nd AC Russel Bowie pose with the Iwerks 8-Perf and Imax Solido cameras during camera tests at Cirque du Soleil headquarters. At far right, Bowie threads the Imax Solido camera.

were 15 to 25 feet below the surface of the water. With the fill lights, we were able to light underwater at f5.6 to f8."

The forest sequence in which the child, accompanied by the Flounes, encounters the Bungees features some of the most dramatic off-the-screen effects in *Journey of Man*. The segment was filmed in the giant redwoods of Big Basin State Park in Boulder Creek, California, and the Bungee jumpers' points of view as they flew down and up was achieved with the use of a camera platform and a construction crane.

"There was really no light in the forest," says Campbell, "so we used rim lighting for everything. The rigging was huge. We used HMIs and tungsten sources. With the rim lights, I was able to light at f8 to f11 using 20Ks in pairs." He adds that so much rigging was used for lighting this sequence that it was difficult to keep it out of the shot.

Smoot recalls, "We pushed the film one stop [achieving a higher stop] to increase depth of field, rating it at 1000 ASA and using an LLD filter for partial color correction. We also mixed daylight sources with tungsten sources to create a pleasing, surreal effect colorwise. There was a slight contrast increase due to the push in the lab, producing a little



more snap and a pleasing image on the large screen. The natural backlight with added smoke effects [when we had the light] gave us a deeper background with cool shafts."

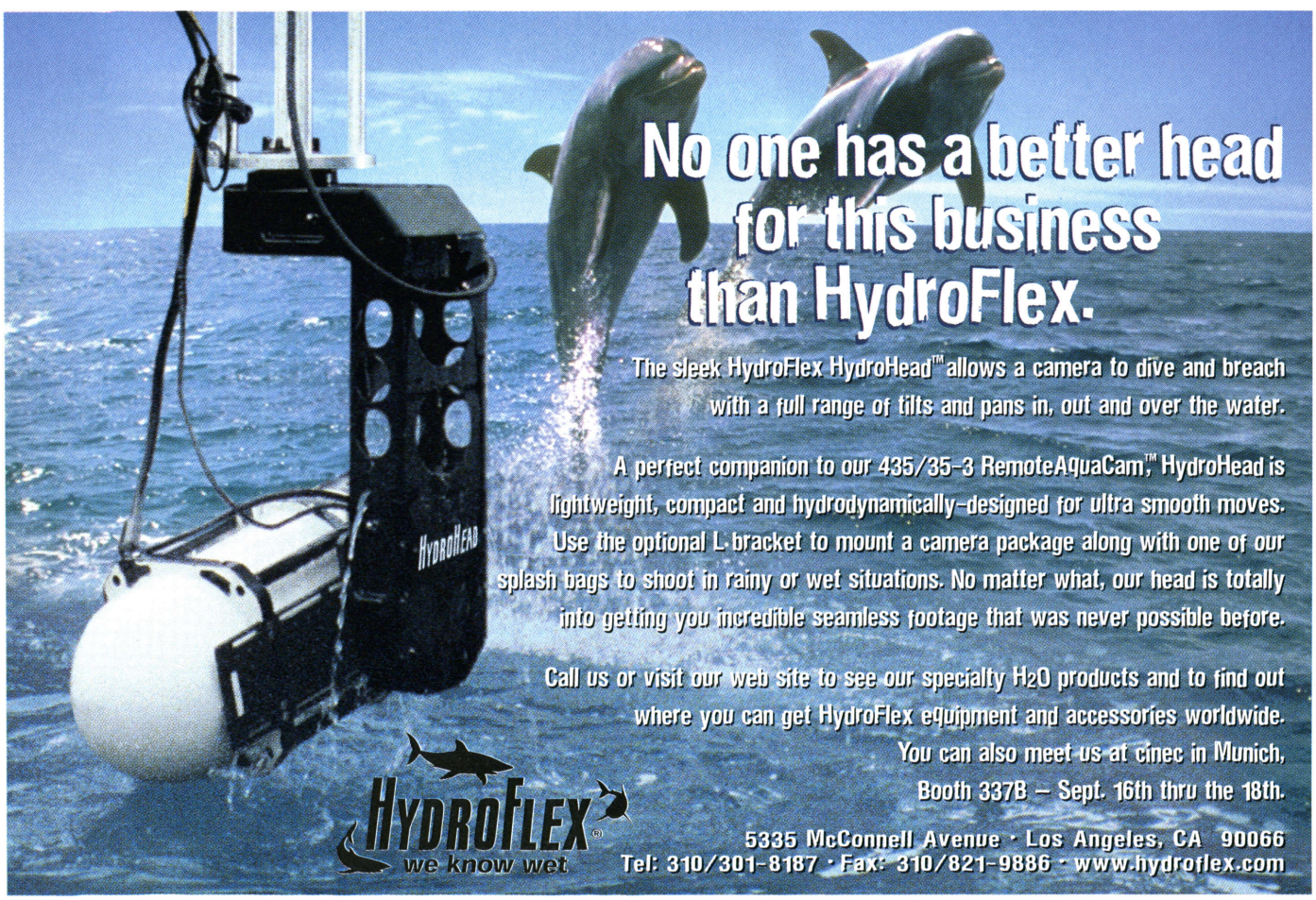
Notes Melton, "There was a rectangular rig suspended from a construction crane that held a circular Skypan for lighting. We turned it off when we filmed upwards, but it was still visible. We digitally eliminated the Skypan in that scene so that when the audience looks through the trees they only see the sky."

To effectively convey a child's POV and make the redwood forest and its inhabitants appear larger than life, a reduced interocular was necessary. "If you were a mouse," details Melton, "your eyes would be closer together and the world would look much larger." These scenes were shot with the Iwerks 8-perf/65mm dual-camera rig designed by Hines.

The Iwerks 3-D rig features variable convergence ranging from infinity to 4'. The adjustable interocular ranges from 0 to 4 ½". These adjustments can be made on the fly from a wireless remote while the camera is rolling. A sync box electronically interlocks the two cameras, which can be removed from the platform very quickly. The Iwerks 3-D rig will also allow for use of 15/65 cameras and an array of lenses from 40mm to 250mm.

Second AC Tim Lovasen, left, stands next to the Iwerks 8-Perf camera, which is mounted on a special rig and aimed upward to photograph the Bungees dropping from the treetops. The Iwerks camera was used for these shots because director Keith Melton wanted them to be in slow motion.

Hines designed a twin-camera 3-D rig in the early 1980s for Walt Disney Productions for use on the 5/70 3-D film *Magic Journeys*. At the time, Don Iwerks was manager of technical development and services for Disney. Shot with twin 65mm cameras, *Magic Journeys* was a landmark film that revolutionized stereoscopic filmmaking and established large-format 3-D as a viable attrac-



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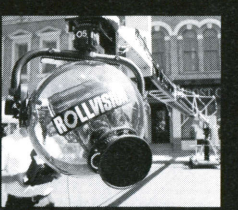

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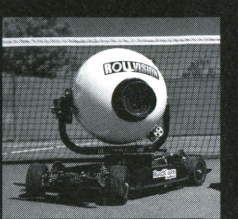

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"The interocular that was used on the forest sequence of *Journey of Man* was as little as 1 ¼ inches," says Hines. "One scene with a spiderweb is in the foreground required a greatly reduced interocular. They were dealing with such a huge range of subject distances that they needed a rig that had adjustable interaxial."

Following the forest sequence, an interlude commences in which a performer whirls a flaming cube atop a mountain at night. This sequence was shot in December at the Valley of Fire State Park in the Nevada desert, and weather was a constant problem. High winds, a very low wind-chill factor and a snowstorm interrupted filming.

The Statue Act that follows was filmed at a Renaissance-style reflecting pool at a private estate in San Mateo, California. When the crew arrived at the estate, they drained the pool, scrubbed it clean and refilled it with water and ecologically safe black dye that gave the water a more reflective, dramatic look. Camera track laid under the water allowed for greater maneuverability around a lily-pad platform built for the performers.

After the Banquine sequence, *Journey of Man* closes with a finale at the Brandenburg Gate in Berlin. The crew watered down the street in front of the gate to give it a more dramatic look. Lighting this nighttime sequence required tons of rigging. "We had many instruments tucked around every corner to light this scene," recalls Smoot, adding that the crew replaced the architectural lighting around the site with lights they could control with a dimmer. The sequence closes with a computer-generated sun rising behind the gate. "It is a new dawn against the barren monument of the Brandenburg Gate," says Melton. "The story comes full circle to show that the journey continues." ■

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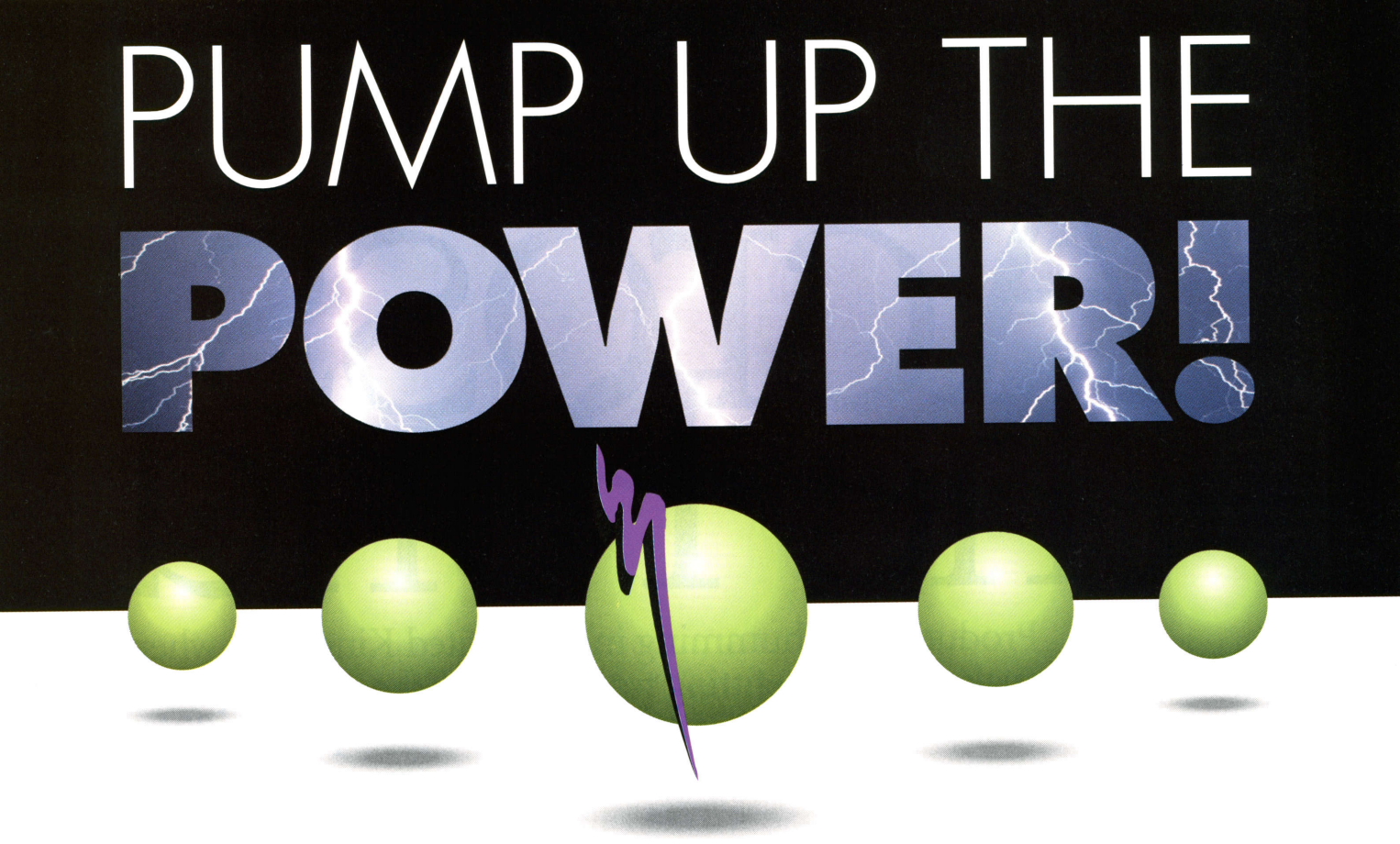

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Across the Pond

Production is humming in the United Kingdom, where filmmakers are benefitting from state-of-the-art equipment houses, studios and post facilities.

by John Gainsborough

It is fortunate for the U.K. film industry that Britain is located in a pivotal geographic position. In addition to its indigenous film production, the country is seen as an offshore base for American productions and co-productions, for European co-productions and for servicing international productions and shoots. This year, several major features and a steady stream of relatively low-budget movies — as well as visual effects, postproduction and animation work — have kept the British film industry busy. There has also been some consolidation within the industry, and the government has launched a number of new initiatives to facilitate film production.

As an indication of current American activity in the country, *102 Dalmatians* has been filming at Shepperton, *Tomb Raider* and *Proof of Life* are in production at

Photos courtesy of Panavision London, 3 Mills Studios and Rebus Film Distribution

Opposite page: The camera-preparation department at Panavision London enjoys an atypically quiet day. This page: Panavision London bought Samuelson Film Service three years ago and has fully integrated its services under one roof.

Pinewood, and the film version of *Harry Potter* is in preparation at Leavesden. Many of the animators assembled by Bristol-based Aardman Animations for *Chicken Run* are now engaged on a second DreamWorks co-production at Aardman. BBC Films and Film Four (the film-production arm of Channel Four Television) have produced or co-produced a steady number of films for theatrical release as well as TV, including *Maybe Baby, Pandaemonium* and *Five Seconds to Spare*. Greenpoint has co-produced a number of features with the French company Canal Plus, among them *Intimacy*.

But while there is optimism about the present level of production, the British film industry has always been susceptible to the vagaries of demand. The realm offers an excellent pool of technical and artistic talent, as well as first-class production facilities, but the industry must maintain a consistent level of production to ensure stability and resilience. In recognition of that need, the British government this year established a new strategic organization, the Film Council, to promote a more sustainable film industry in the U.K. The Film Council, with an annual budget of £55 million (or $82 million), has now taken responsibility for the British Film Commission (promoting inward investment), the British Film Institute's Production Department (film-production investment) and British Screen Finance (a publicly supported film-investment company that will be absorbed by the Film Council).

The Film Council is chaired by producer/director Alan Parker, whose credits include *Angela's Ashes, Evita* and *The Commitments*.

The realm offers an excellent pool of technical and artistic talent, as well as first-class production facilities, but the industry must maintain a consistent level of production to ensure stability and resilience.

Introducing the new organization last spring, he noted, "Our intention is to use public money to make better, more popular and more profitable films in real partnership with the private sector, which drives our industry and largely creates our film culture. [The] longer-term undertaking [is] aimed at generating change within the industry at a structural level… to create a truly durable business sector."

Parker added that the British industry's strong links to both Europe and America create an extraordinary opportunity for substantial growth. The Film Council will support screenplay development, production, industry training, new cinema, the exploitation of the Internet, a statistical service and an expansion of the British Film Office in Los Angeles.

In another strategic move, the well-established Guild of Production Executives and the Guild of Production Accountants and Financial Administrators joined forces recently and formed a single organization, the Production Guild, which is based at Pinewood. The new organization should be able to present production executives and accounting personnel under one professional umbrella, and it will be able to negotiate on behalf of its members and the industry as a whole.

Home-based production, including films for TV and a healthy commercials market, ensure a sound base for equipment-rental houses, which have continued to grow by acquisition or demand. Panavision, which acquired Samuelson Film Service three years ago, has completed the integration of the

Across the Pond

Above: *Maybe Baby* is one of the recent films co-produced by BBC Films and Film Four. Pictured clockwise from the left are Joanna Lumley, Emma Thompson, Yasmin Bannerman and Joely Richardson (on bed). Below: One of the studios at 3 Mills Studios is readied for production.

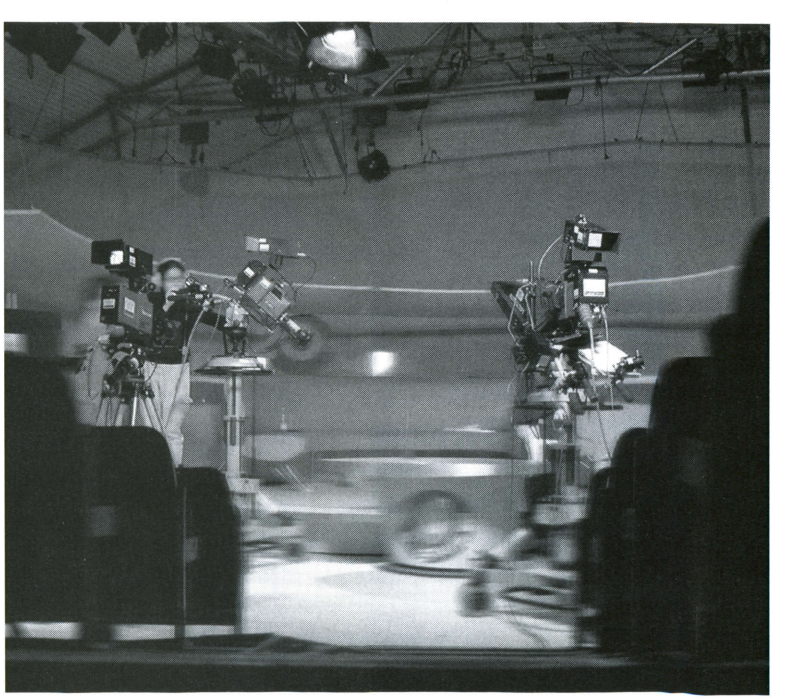
company and grouped every operation under one roof in Greenford. Its building, a large, carefully planned conversion on an industrial site, incorporates camera rental facilities, maintenance and engineering services, grip equipment, large test rooms, a 50-seat screening room and a negative-processing facility for on-the-spot development of test rushes. The ethos of service to cinematographers, built up so assiduously by Panavision and Samuelson Film Service over the years, should be well served by their consolidation. Early last summer, the company's equipment was rented to a string of productions, including *Captain Corelli's Mandolin*, *Enigma*, *Mummy 2* and *Proof of Life*.

Munich-based Arriflex has been a major camera competitor in the U.K. since it first set up Arri GB close to Heathrow at Heston. It offers camera rental through Arri Media and camera, Leitz lenses and lighting sales through Arri Lighting. The new 16mm Arriflex 16 SR-3 Advanced Camera has proven quite popular, particularly for TV dramas, a great many of which are still shot on film.

Many European countries formerly in the Soviet bloc have begun to re-equip their studios, and Arri Lighting reports consistent sales to studios in Poland, Hungary and other East European countries. Locations in these countries are now often used for films, particularly TV dramas. Arri has noted a growing interest in 35mm from wildlife cameramen, driven by demand for higher definition; however, those filmmakers represent only a small part of the company's 35mm market.

The facilities business is highly competitive. One film-equipment rental house, VFG, has grown rapidly since it was formed in 1989 and is currently the largest U.K.-owned, publicly quoted equipment-rental company in the country. It has nine offices in the U.K. as well as one in Dublin and one on the Isle of Man. VFG acquired Michael Samuelson Lighting two years ago, giving it a base at Pinewood. The company offers a full range of equipment, from 16mm and 35mm cameras to lighting, grip equipment and video cameras, and it also sells film stock. VFG has invested £30 million in new equipment over the past three years. Among the projects that recently used its equipment were *The Bridget Jones Diaries*.

Two of the best-known major lighting-rental companies, Lee Lighting and AFM Lighting, are both based in London. Tony Lucas, managing director at Lee Lighting, says the company has invested heavily in new lighting and is looking for new premises. While shooting part of *Hannibal* in Florence, Italy, Ridley Scott used the latest Leelium light balloons to illuminate the interiors of an ancient church without causing



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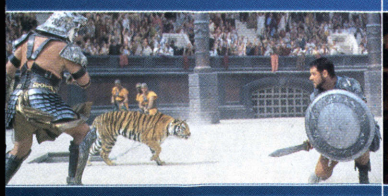

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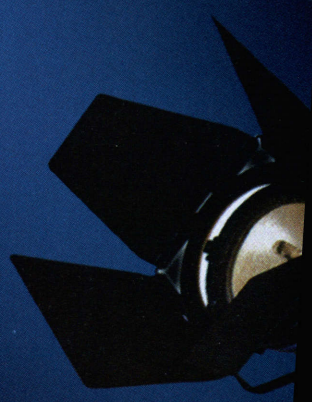

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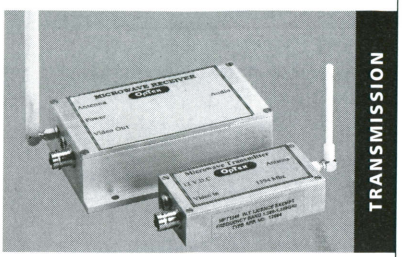

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Across the Pond

3 Mills Studios in East London includes studios and a media center, as well as a helicopter pad and large rehearsal rooms. Pictured is the employee lounge.

any rigging damage. Leelium's innovative system is increasingly being used in historic buildings for this reason and for speed. Lee's lights have also been used recently on *102 Dalmatians*, *Mummy 2* and *Proof of Life*. AFM Lighting is based on Waxlow Road and uses more than 65,000 square feet of floor space to house its lighting stock and fleet of 120 vehicles (which include the MovieStar, which is capable of lifting a lighting rig 100'). AFM Lighting's relatively new building incorporates a demonstration studio, where cameramen can try any piece of equipment and alternative lighting solutions. The company supplied lights for the last three James Bond films, as well as *Entrapment* and *The Beach*, among others.

The U.K. studio infrastructure has changed little in the past two years. Last year, Pinewood opened two new stages totaling 40,000 square feet and installed a broadband fiber-optic ring main. Pinewood was also sold by Rank to a consortium led by Michael Grade, former head of Channel Four. Steve Jaggs, who continues as managing director of Pinewood, says that in addition to attracting traditional features and filmed TV productions, the studio hopes to attract a greater variety of TV productions.

The East London facility 3 Mills Studios, which offers both

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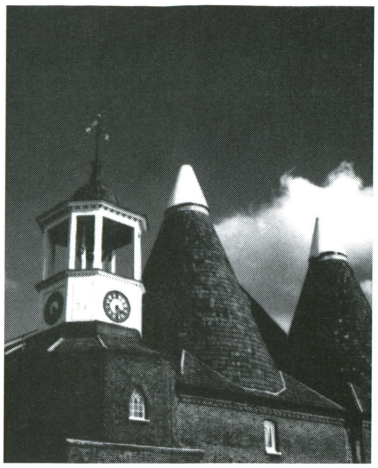
Across the Pond



This page: An 18th-century gin distillery was once housed in the buildings now used by 3 Mills Studios. Opposite page: A crew at the studio gets ready for action.

studios and a media center, is being steadily transformed with a mix of development within and alongside existing buildings that originally housed an 18th-century gin distillery, and further development is scheduled on an adjacent site. The studios include a helicopter pad, an exterior lot and rehearsal rooms suitable for ballet and circus acts, as well as river frontage with barge moorings. Daniel Dark, managing director of 3 Mills, says the company has spent £8 million on the site in the last three years. Its newest soundstage, finished this year, was in use within days of completion.

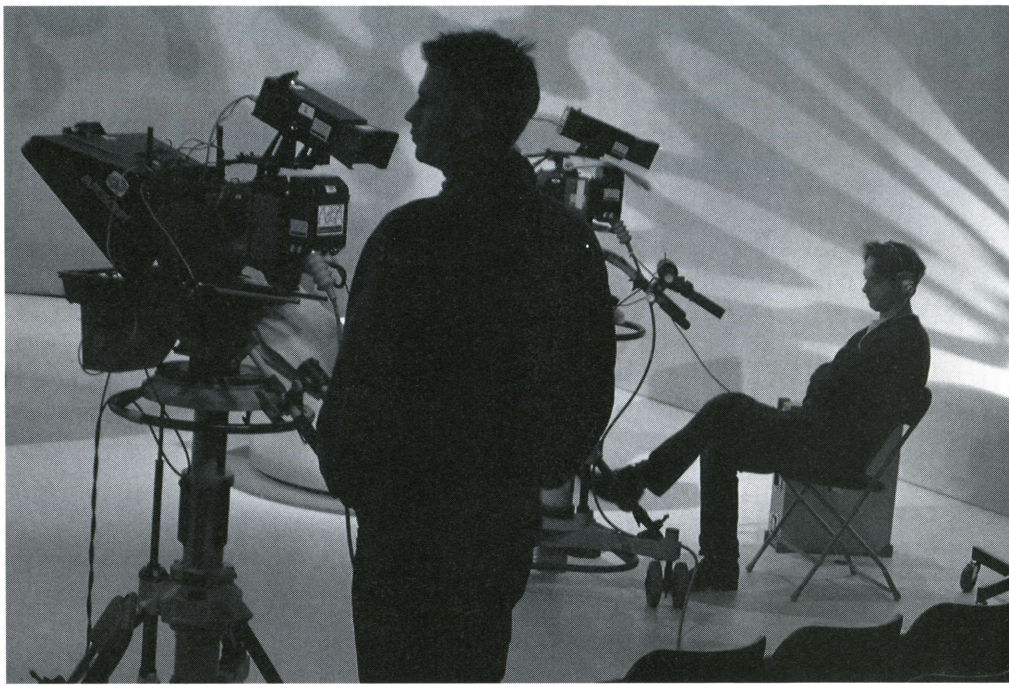
Elstree Studios' two new stages, each of which offer 16,000 square feet, are in full use. Features recently shot there include *Enigma*, *Sorted* and *Final Curtain*. Elstree's Joe Dunton is working on Ridley Scott's *Hannibal*, for which he developed a special 28-290mm zoom lens. Scott and his brother, Tony, still own Shepperton Studios, which has been the base for *102 Dalmatians*, *The Mummy* and *Chocolat*. The clubroom in the old house at Shepperton remains the home of the British Society of Cinematographers.

Two businesses formerly owned by Rank, Cintel International and Cooke Optics, have both introduced successful new products. Cintel is in the process of restructuring in the U.K. and America. Cooke Optics, now occupying new premises and best known for its 25-250mm and 18-100mm zoom lenses, has had a runaway success with its new range of S4 primes. Thus far, the firm has introduced six prime lenses out of an intended set of 12. Demand for these new lenses has been so high there is now a waiting list.

One British studio has made extraordinary progress since its small beginnings just over 20 years ago. Aardman Animations, whose stop-motion feature comedy *Chicken Run* was a summer hit in the States (see *AC* August '00), will produce four more features for DreamWorks SKG to fulfill its £150 million deal with the American studio. The deal has been a coup for both studios and is a tribute to the single-minded persistence of Aardman's directors, Peter Lord,

David Sproxton and Nick Park.

Technical advances, particularly in digital techniques, data-storage and high-definition capabilities, are unremitting, and the postproduction houses centered in Soho, London, are constantly updating their facilities. Visual-effects work for *Gladiator* by Mill Film, postproduction on *Chicken Run* by de Lane Lea, and visual effects for *Deep Blue Sea* and *Saving Grace* by The Film Factory are indicative of the constant work flow in the area. Many of the post houses, such as Computer Film Company, VTR and Framestore, are linked within London through the broadband fiber-optic Sohonet. For *Gladiator,* Mill Film made constant use of Wam!Net for approvals in America (see *AC* May '00), and the company uses the system to interact with U.S. agencies on a daily basis. International high-speed broadband links such as Wam!Net are being carefully evaluated by other companies interested in transferring work back and forth to the world's film production centers, particularly between America and the U.K. ■



Northern Exposure

Canadian incentives are drawing productions north of the border, and Toronto is enjoying its busiest year ever.

by Mark Dillon

Photos courtesy of Warner Bros. Pictures and C.O.R.E. Digital Pictures; *Angel Eyes* photo by Rafy

Toronto, Canada's largest city and the capital of the province of Ontario, has blossomed into a world-class center of film and television production during the past decade. The Greater Toronto Area (GTA) has a population of 4.6 million and is situated on Lake Ontario, north of the New York state border. According to the Toronto Film and Television Office, 217 major productions (39 features, 65 movies of the week, 67 TV specials, 44 TV series and two miniseries) were shot in the city in 1999, compared to just 77 in 1990. Industry figures indicate that this year will be the biggest yet (at press time, 51 productions were shooting simultaneously in and around Toronto, representing the largest number of concurrent projects on record).

Toronto's success in film

SHOOTING IN TORONTO

production is rivaled by the west coast province of British Columbia, where production is concentrated in the city of Vancouver. Although B.C. had fewer productions than Toronto last year (198), more production dollars were spent there — U.S. $723 million ($449 million on U.S. productions, $274 million on Canadian ones), compared to Toronto's total of $564 million ($284 million on U.S. productions, $280 million on Canadian shows). These statistics indicate that B.C. is benefitting from bigger-budget Hollywood productions, which is not surprising given that it is twice as close to Los Angeles as Toronto and its milder shore climate enables it to facilitate year-round shooting.

Film and TV activity in Montreal, the biggest city in the French-language province of Quebec, has skyrocketed in the past few years, with $490 million in production spending, including $144 million in foreign production, mostly from America. Montreal hosted the biggest production yet to come to Canada, the $80 million Warner Bros. sci-fi flick *Battlefield Earth*, and that will be surpassed when director John McTiernan rolls into town to commence shooting on the $85 million MGM remake of *Rollerball*.

The increased presence of U.S. productions in Canada is due primarily to the favorable exchange rate; the American dollar is currently valued at nearly $1.50 Canadian, which translates into significant, instant savings for American productions. Toronto, which has hosted mostly small- and medium-budget Hollywood projects, is attempting to convince the heavy hitters that it's worth making the trip, and the provincial government has sweetened the deal with tax incentives. The publicly funded Ontario Film Development Corporation offers an 11 percent refundable tax credit on the Ontario labor costs of foreign-based productions, and in an effort to spread the wealth to the province's smaller cities and towns, the agency awards a 3 percent bonus to productions with at least five shooting days in Ontario and at least 85 percent of location days in Ontario outside the GTA.

It is for these cost-saving reasons that 20th Century Fox decided to shoot its summer blockbuster *X-Men* in Toronto and its environs. The studio wanted to craft a visual-effects extravaganza, but that was deemed impossible to achieve in America within the film's $75 million budget. By crossing the border to shoot in Toronto, the production's budget blossomed to Cdn.$110 million, allowing the filmmakers to achieve the film they had envisioned and giving the city its biggest production to date.

The *X-Men* producers were confident that Toronto had the infrastructure necessary to realize such a colossal project. The film's complicated stage work was shot primarily at Showline Harbourside Studios, which contains three soundstages — 7,000 square feet, 11,000 square feet and 14,000 square feet. The rooms are usually booked by three separate productions, but *X-Men* required all three. The largest stage housed what is reportedly the largest bluescreen ever built, along with a specially constructed scale mockup of the Statue of Liberty's top portion for the film's climactic battle scene.

The entire Showline facility was not enough, however, and *X-Men* required some additional work at Cinespace Studios and on a Canadian Broadcasting Corporation TV soundstage. The film's director of photography, Newton Thomas Sigel, ASC, acknowledged the quality of Toronto stages but expressed frustration at the overall lack of space (see *AC* July '00). The Canadian newspaper *The Globe and Mail* recently reported that in the summer of 2000, the city's soundstages were booked solid, forcing productions to travel as far as Calgary to shoot in military hangars that had been converted into studio spaces.

Film and TV production in Toronto is seasonal, with business slow in the winter and red hot in the summer and fall. October 1 was last year's busiest production day in town, with 30 projects shooting at once. That kind of volume requires filmmakers to race to secure the top crews, and most big productions are sure to book their technicians months in advance. Similarly, there can be runs on equipment in peak periods. Cinematographers on low- and medium-budget films say they are sometimes unable to obtain a certain piece of gear or their first choice of camera, which suggests that the growth of production is greater than the service sector's ability to keep pace.

Opposite page: On location in St. John's Norway Cemetery in Toronto, the cast and crew of *Angel Eyes* prepare to get a 360-degree shot using a 12'-wide, variable-speed, multi-remote turntable in lieu of a circular dolly track. Pictured at center from the left are cinematographer Piotr Sobocinski (standing behind the turntable), director Luis Mandoki and actor Jim Caviezel (with his back to camera). This page: Staff from C.O.R.E. Digital Pictures discuss *Angela Anaconda*, a Fox Family cartoon, in one of the company meeting rooms.

Northern Exposure

Computer animators Martin Drover, foreground in top photo, and Moysis Antoniou, foreground in photo at right, make magic at C.O.R.E. workstations. The company was one of several visual-effects houses that contributed shots to *X-Men*.

Shooting outside the studios and on the streets is complicated by the fact that Canadian cities are almost always disguised as U.S. cities in Hollywood films. One recent exception to this was *The Whole Nine Yards*, which was both shot and set in Montreal, allowing cinematographer David Franco to take full advantage of the landmarks that give the city its distinctive Old World look. Toronto frequently substitutes for New York City, dating back to when Union Station, the city's train depot, stood in for Grand Central Station in *The Last Detail* (1973). Last year, 28 film and TV projects set in the Big Apple were filmed in Toronto.

Visually, however, Toronto and New York are very dissimilar, which presents challenges to directors, cinematographers and production designers alike. Jeff Freilich, producer of the Showtime movie *The Naked City* (see Production Slate, *AC* Oct. '98) was sensitive to the discrepancies. "In Toronto it's rare to find the mosaic of architecture that you find in Manhattan, where you can take a 40mm lens, point it at a certain corner and see 10 generations of architecture dating back to the late 18th century," he notes. "In Toronto you're lucky to find one older building among 20 skyscrapers, and the degree of 'skyscraping' is different; it's rare to find the assemblage of tall buildings here that you would find in New York."

Sigel told *AC* that his initial concern on *X-Men* was that Canada's guilds and government incentive programs, which ensure that crews shooting in Canada are almost entirely Canadian, would prevent him from employing his usual chief lighting technician and focus puller. Although most cinematographers would rather work with trusted collaborators than unknown ones, many directors of photography who have come to Toronto from elsewhere have been more than satisfied with the local crews. Veteran director of photography Roy Wagner, ASC, commenting on his experience shooting the Showtime movie *In the Company of Spies* in Toronto two years ago (see Production Slate, *AC* Oct. '99), offered, "When I was being raised as a cinematographer, I was always told the great stories of old Hollywood and how everybody was tied together; if one bled they all bled, [and] if someone needed help they all pitched in and helped each other. That's the experience I've had [in Toronto]. There's been a sense of collaboration, of making this work no matter what. And there's not been any complaint or resistance whatsoever. You can come into your own city and find that kind of conflict, but not here."

Polish cinematographer Piotr Sobocinski, whose credits include *Ransom* and *Three Colors: Red* (for which he was nominated for an Academy Award), recently spent 52 shooting days in Toronto with director Luis Mandoki on Warner Bros.' *Angel Eyes*, starring Jennifer Lopez. Having worked in both Europe and America, Sobocinski qualifies the experience with his Canadian crew as the best of his career. "My focus

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puller is one of the best I have ever met, and I have worked in Los Angeles and New York. Everybody [was] fantastic; everything was prepared. I would come on the set and never be surprised. I had a dolly grip who understood when to stop the camera and which moment of dialogue he could use as a cut. He's not just a guy who's pulling and pushing the dolly — he's one of the filmmakers. It was one of the hardest movies of my life but one of my most fantastic experiences, because I could see that the [crew] enjoyed it and everybody was with me."

Sobocinski shot the production's stage work at Cinespace Studios and says he felt freer to experiment than he would have if he had shot on a Los Angeles stage, closer to studio influence. "We had the chance to do this type of work because we weren't in a [Hollywood] studio. I think most 'studio movies' have a completely different way of thinking: shoot as much as possible. They want a thousand options — yellow, blue, camera here, camera there, now the actor has to cry, now he has to smile. They have to be sure that if something's wrong, they can switch it. What that means for the filmmaker is you can't keep your style because you're lost in all this. On *Angel Eyes*, we had more freedom."

The growing reputation of Toronto's crews is matched by that of its postproduction houses. Whereas Hollywood productions used to go straight home after wrapping to start on post work, an increasing number are taking advantage of the technologies, expertise and lower costs of Toronto houses. The *X-Men* producers, for example, hired C.O.R.E. Digital Pictures (one of 31 major visual-effects and animation houses in town) to contribute a map-room sequence to the film. C.O.R.E. also recently worked on *Finding Forrester*, directed by Gus Van Sant and starring Sean Connery, and *The Caveman's Valentine*, which features

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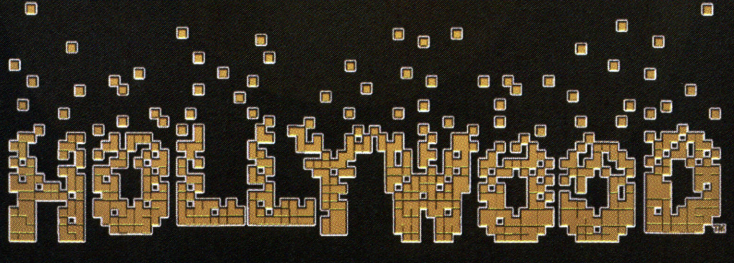

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Samuel L. Jackson. Both films were shot locally.

Controversy in both Canada and America has accompanied the growth in Canadian production. Canadian producers argue that while provincial governments bend over backward to accommodate U.S. productions, they don't do enough to stimulate the development of Canadian projects, which rely heavily on public funds. One need only look at the marquees of Toronto's many movie theaters, dominated almost entirely by U.S. product, to see their point.

The pecking order within Toronto is demonstrated by the case of local director Atom Egoyan, a 17-year industry veteran whose features *Exotica* and *The Sweet Hereafter* have made him one of Canada's most acclaimed filmmakers. Shooting his most recent film, the U.K.-Canadian co-production *Felicia's Journey* (see Production Slate, *AC*, Dec. '99), in England's Shepperton Studios afforded Egoyan and his longtime cinematographer, Paul Sarossy, CSC, a luxury they never enjoyed back home. "We had never shot in a studio," Egoyan explains. "When you shoot in Toronto [on low budgets], it's always in converted warehouse spaces. We've never had access to the studio spaces [because] they're always booked by bigger [U.S.] films."

The volume of U.S. business was recently threatened when Revenue Canada, the federal taxation division, stated that the 15 percent withholding tax levied on foreign actors working in Canada was insufficient, and that a full tax return would be required. This would be particularly detrimental to California actors, whose home state does not offer tax credits for foreign work. This development sent shock waves throughout the Canadian production sector, where some expressed the belief that major Hollywood stars would no longer work north of the border. A lobby by Canadian industry members quickly followed Revenue Canada's announcement, and the government decided to stay its decision. Many in the production and post fields believe that Revenue Canada will ultimately not want to sacrifice a good thing.

Meanwhile, industry infrastructure continues to develop unabated. Vancouver audio postproduction shop Post Modern Sound, for one, recently announced plans for a $3 million expansion, confident that feature film production will only continue to grow in B.C. Mark Scott, vice president and director of operations at Post Modern, states that "it's important for the government to recognize the kind of industry that's

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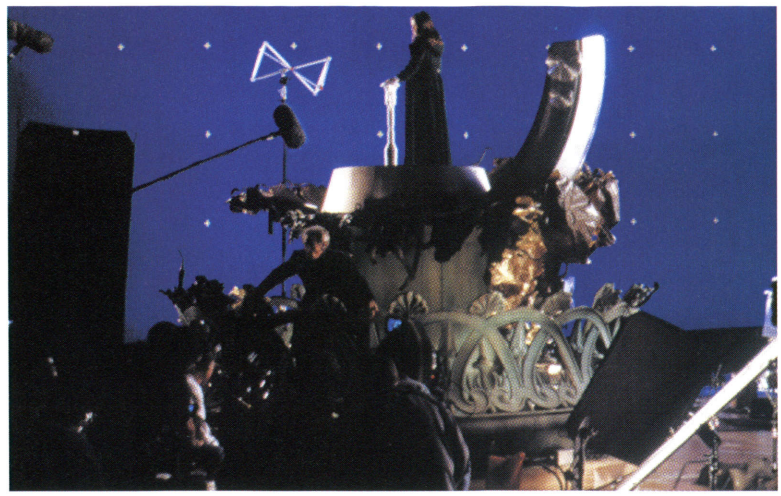
here and the amount of money it injects into our economy. I think it would be a fool's move to try to change that in any radical way, other than a way that's conducive to keeping [foreign productions] here."

Scott acknowledges that a government reassessment of tax credits and the possibility of the Canadian dollar rising relative to its U.S. counterpart make it difficult to forecast the future of production in Canada, but he says the key in all areas of the industry is to provide world-class service. "What you need to do to be a leader in the industry is to make your moves, [push] your growth and show people you are willing to be on the leading edge of things and compete on an even playing field, regardless of whether [you're dealing with] U.S. or Canadian dollars," he says.

In America, the issue of "runaway productions" has been a hot topic for the past couple of years, with Canada the focus of attention. According to California craft unions, 80 percent of the productions shot outside of America are shot in Canada. There have been a number of protests by U.S. industry members over this lost revenue. Some Canadian industry insiders believe these protests have only publicized the advantages of shooting in Canada, but the complaints have had an effect at home as well: 40 U.S. states now offer Canadian-style tax credits. ■



For *X-Men*, production designer John Myhre and his crew constructed a replica of the Statue of Liberty's torch on a soundstage in Toronto, where the film's climactic sequence was shot by director of photography Newton Thomas Sigel, ASC (with bluescreen guidance from visual effects cinematographer David Stump). The sci-fi extravaganza was shot in Canada in order to keep it to a $75 million budget.

Upping the Ante Down Under

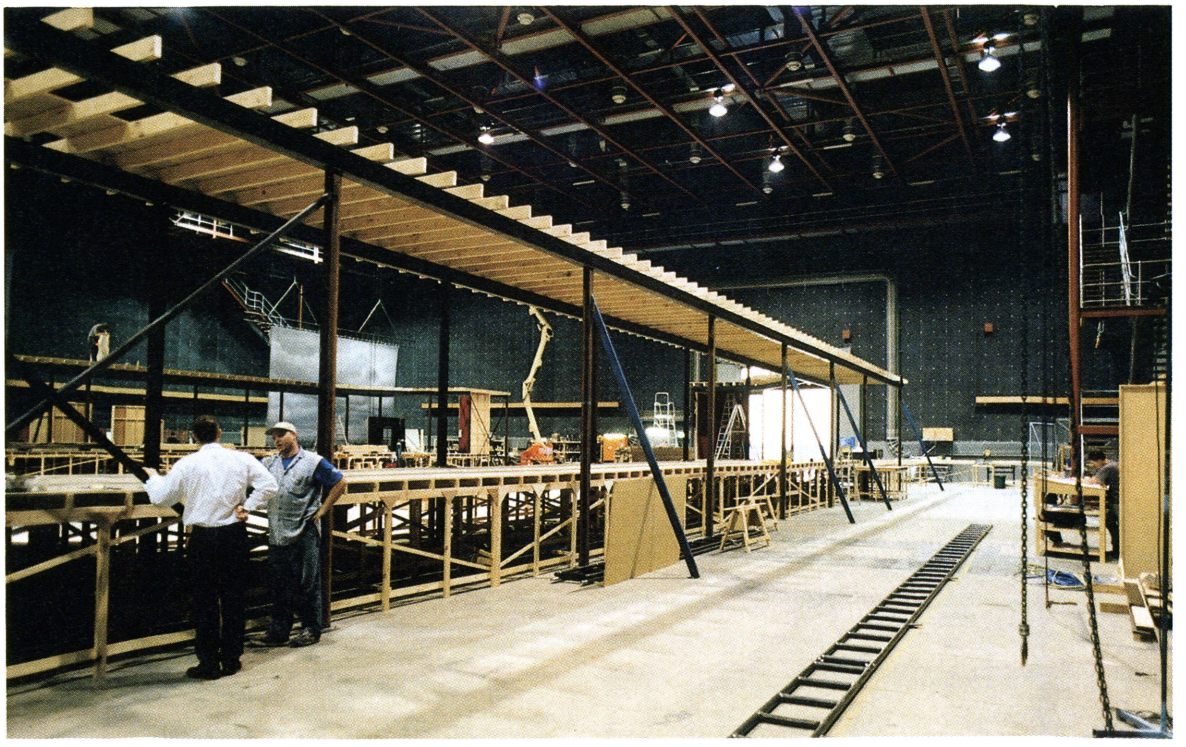
By offering scenic locations, cost savings and top-flight crews and facilities, Australia has become an industry hot spot.

by Catriona Strom

The Australian film industry is beginning to capture international attention as one of the most exciting and progressive in the world. Recent films such as *Mission: Impossible 2*, *The Matrix*, *Strictly Ballroom*, *Priscilla: Queen of the Desert*, *Muriel's Wedding*, *Babe* and *Shine* have not only showcased the creative talents of Australian filmmakers, but have also placed Australia on the map as a desirable location for filming.

Australia offers natural and urban locations as rich, vibrant and diverse as the nation's culture itself. But it's not just the locations that have attracted filmmakers from around the world; it is also the exceptional value for the production dollar and the world-class crews and post-production facilities. Australian film crews, respected for their hard work and multi-tasking capabilities, deliver excellent dollar efficiency. This factor, coupled with favorable exchange rates, translates into savings of between 20 and 30 percent in below-the-line costs on a typical U.S. budget.

The demand for studio space in Australia is continually growing, much of it driven by international production. But although film and television production in the country has reached record levels, local



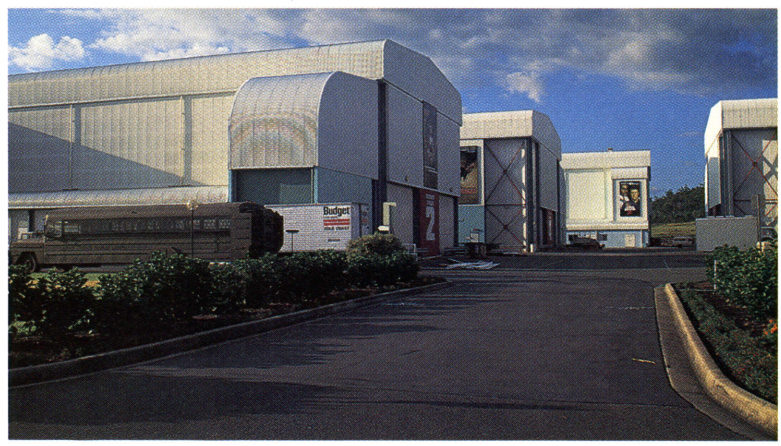
Photos courtesy of 20th Century Fox and Warner Bros.

producers say they are suffering a sharp downturn in business. In fact, it is fast turning into a "them vs. us" situation. A recent survey by the Australian Film Commission showed that production reached a record AUS $678 million (or U.S. $400 million) in 1998-99, after a 52 percent increase in the number of foreign films and TV dramas made in Australia. Behind this boom were largely U.S.-financed productions such as *The Thin Red Line*, *The Matrix*, *Oscar & Lucinda*, *Komodo*, *Noah's Ark* and *Flipper*.

However, the survey also showed that the value of Australian films and TV programs fell 27 percent, from AUS $381 million to AUS $278 million, prompting industry representatives to reflect on the fragile state of the Australian production sector. The number of Australian feature films increased slightly from 37 to 41, but their total value fell from AUS $163 million (in a year dominated by *Babe: Pig in the City*) to AUS $119 million.

The big local success so far this year has been *The Wog Boy*, produced by John Brousek and Nick Giannopoulos, which has earned about AUS $11 million at the box office since its February release. "It must now be the 10th or 11th highest-grossing Australian film ever," Brousek says. "Ours was a film that almost never got made, except for the intervention of funding bodies. Two-thirds of the finance came from government funding."

In fact, an A-list of Australian cinematographers, directors, producers and technicians, including John Seale, ASC, ACS; Dean Semler, ASC, ACS; Gillian Armstrong; Jan Chapman; Scott Hicks; Hal McElroy; Chris Noonan; Jan Sardi; David Williamson, and Steve Courtley and David Lee (recent Oscar winners for *The Matrix*) recently wrote an open letter to Prime Minister John Howard, seeking increased financial support for the film and television



SHOOTING IN AUSTRALIA

Opposite page and bottom photo this page: 20th Century Fox's Sydney studio recently served as the production base for *Star Wars: Episode II* and is scheduled to host *Episode III*. The big-budget American film *Mission: Impossible 2* was also based at Fox Studios-Sydney. Top and middle photos: Warner Roadshow Movie World Studio, has six soundstages and recently hosted *Crocodile Dundee III* and a variety of U.S. telefilms.

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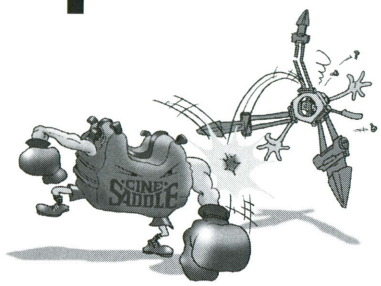

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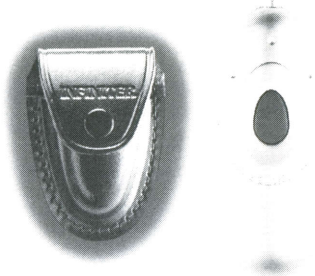

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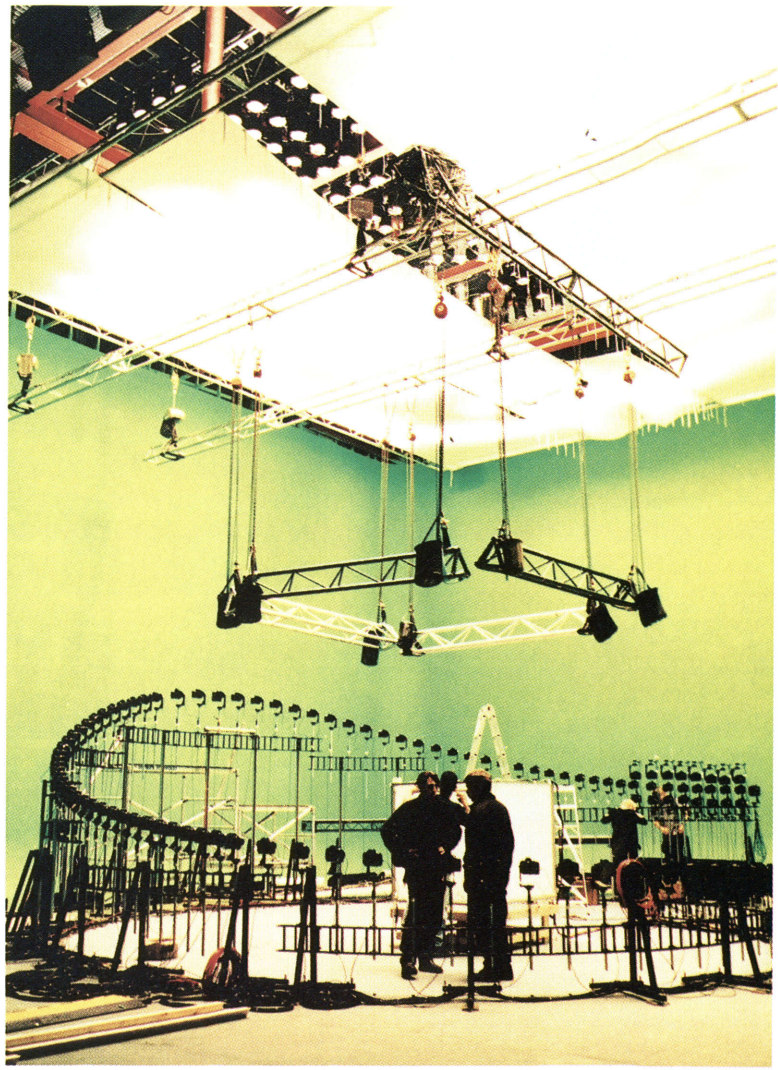


Personnel at Fox Studios-Sydney take a break in one of the soundstages during filming of *The Matrix*. One of the producers said the project would probably have been "parked" if shooting at the studio had not been so cost-effective.

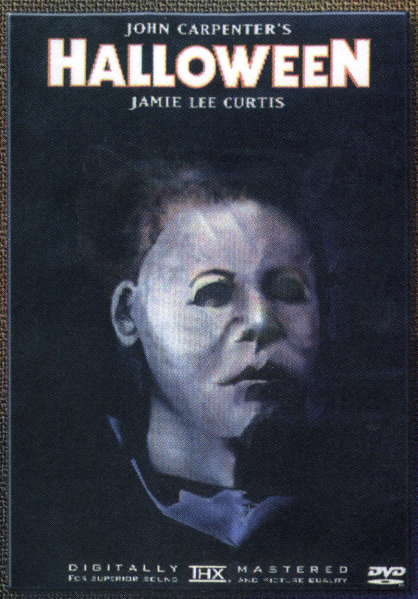
industries.

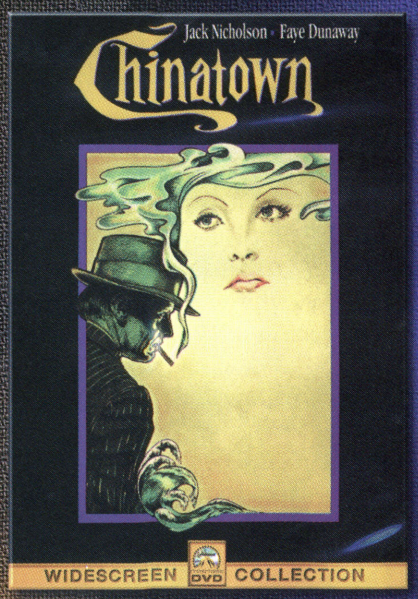
Furthermore, a group of leading film and TV producers has called for a tax on international productions filming in Australia in an attempt to relieve the financial hardships suffered by local producers. The 19 independent producers, including Jane Scott (*Shine*, *Head On*), Tristram Miall (*Strictly Ballroom*), Pat Lovell (*Picnic at Hanging Rock*, *Gallipoli*), Bill Bennett (*Kiss or Kill*) and Daniel Scharf (*Romper Stomper*), maintain that the tax is one solution to the increasing difficulties of staying afloat in the production industry.

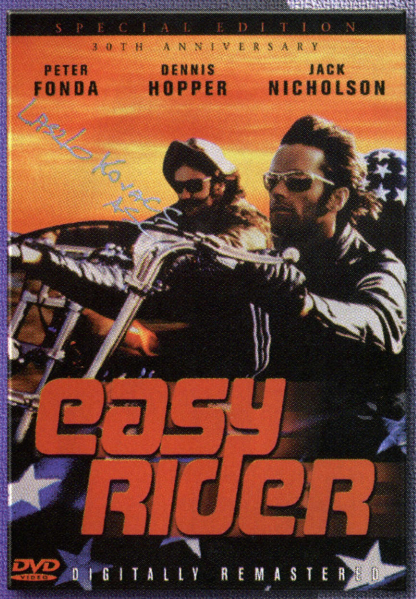
As well as federal government assistance to the film industry, state governments also encourage local production and a local film culture through state film agencies. While most of these financial incentives are available only to Australian projects, some organizations, such as the Queensland-based Pacific Film & Television Commission, make funds available to foreign filmmakers whose projects meet certain criteria. PFTC's incentives include rebates on payroll tax and cast/crew salaries, free fire and police services and traffic-safety control.

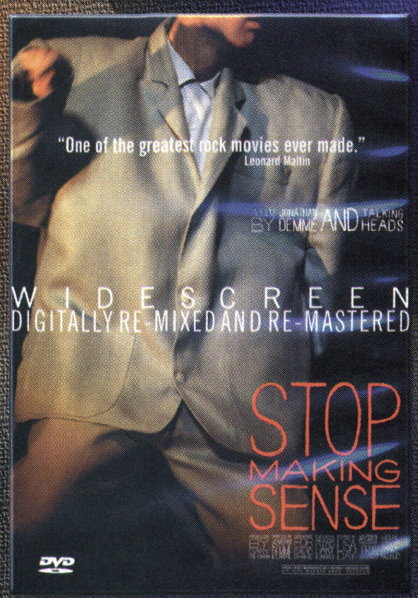
In New South Wales, the Film

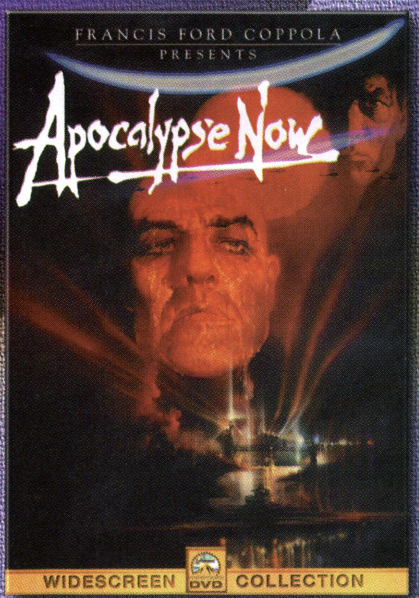
DVD PLAYBACK











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Upping the Ante Down Under

and Television Office says its major financial incentive to overseas filmmakers is a payroll tax rebate for productions based at Fox Studios in Sydney. However, a new initiative called the Regional Filming Fund, which aims to attract production to rural areas by offering grants of up to AUS $50,000 to offset filming costs, will take effect on Jan. 1, 2001. All state film agencies welcome inquires from foreign filmmakers planning to film in Australia and offer free assistance with locations and advice on local production and postproduction facilities.

The existence of Hollywood-quality studios has enabled big-budget films to be shot in Australia using Australian talent. Andrew Mason, the Australian producer of *The Matrix*, said the film would most likely have been "parked" had it not been for the cost-effectiveness of shooting at Fox Studios-Sydney. Federal tax incentives in Australia offer a 100 percent tax deduction to investors over two financial years, while Sydney's main state tax benefit is the payroll-tax incentive for films made at Fox Studios.

Hollywood-financed films are landing in Australia more frequently, attracted by the locations and the comparatively cheap cost of production, as well as the favorable exchange rate. According to Victoria Buchan of Fox Studios-Sydney, the current exchange rate means that American films can save roughly 10 percent by filming in Australia.

Many studio managers acknowledge that facilities such as Fox Studios-Sydney are luring work to Australia that would otherwise have gone to another country. Most of the principal photography on George Lucas's *Star Wars: Episode II* took place at Fox Studios-Sydney this summer, and *Episode III* is slated for production there as well. According to *Episode II* producer Rick McCallum, the film's crew numbered from 60 to 70. "By normal Australian

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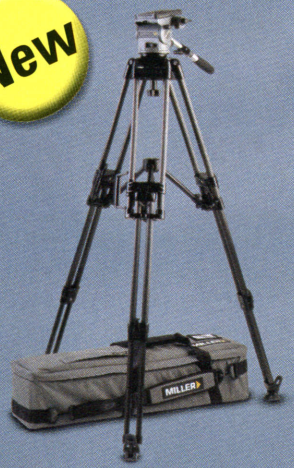

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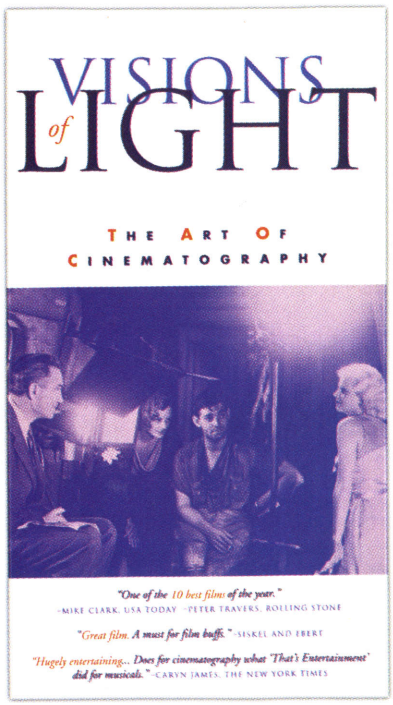

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Upping the Ante Down Under

standards, that's huge, but by our standards that's actually quite small," he says, adding that "99.9 percent" of the crew was Australian.

McCallum says the most persuasive reason to shoot in Sydney is the filmmaking talent. "It always comes down to talent and money — the crew's flexibility, the environment, the studio and what it costs to make a film. Right now we're in a world where you can zap from one place to another. Hollywood is just now learning that you can move anywhere and do it very, very quickly." Although the final figures on *Episode II* are not in, McCallum estimates that shooting the sci-fi epic in Australia was 20-25 percent cheaper than filming in America would have been.

McCallum concedes that different approaches to filmmaking can present a challenge to American productions shooting in Australia. "There's definitely a cultural difference in terms of the way certain things are done, but those are learning experiences," he says. "It was difficult for the first couple of weeks until everybody understood who was doing what, but... we got way beyond that. The Australian construction crews are brilliant, absolutely brilliant."

John Woo, director of *M:I-2*, notes that "film crews in Australia have a different rhythm than those in Hong Kong and Hollywood." There were reportedly some on-set problems with the part-American, part-Australian crew for *M:I-2*, which culminated in an Australian cinematographer being replaced by Jeffrey L. Kimball, ASC. "Australian crews are great — they work very hard," Woo says. "But they are still growing up as an industry. They have their own rules, like working nine hours a day [whereas] we work 12. So we had to deal with that."

Australia's studio facilities have done their part to sweeten the deal for filmmakers who opt to shoot

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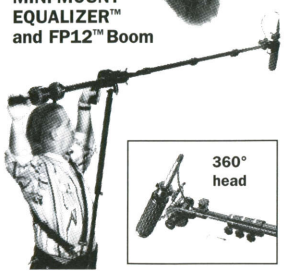

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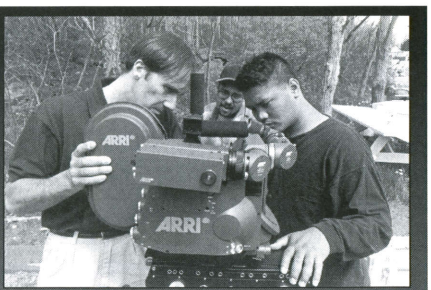

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Down Under. Fox Studios-Sydney recently acquired a 747 plane set, which the studio hopes will attract more international productions. Because of its sheer size, the set it is being housed at the Homebush Bay Waterfront Estate, a 27-acre property that is largely dedicated to servicing the film industry. The space currently houses the Nine Films and Television series *Farscape*. The production has set up eight studios within a 32,000-square-foot space. The facilities have also been used to shoot scenes from ICON/Columbia TriStar Television's *The Three Stooges* and the Von Zerneck/Sertner American telefilm *Nowhere To Land*.

In Queensland, Warner Roadshow Movie World Studio, situated on the Gold Coast, is, like Fox Studios, a mini-city housing every aspect of film production. Situated on 32 acres, the studio includes six soundstages, two water tanks, production offices, editing rooms, wardrobe facilities, construction workshops and a backlot. Already this year, the studio has hosted five U.S. telefilms, including *The Product*, *Chameleon II* and *Stepsister From the Planet Weird*. A mini-series (*The Dreaming*) and two TV series (*Beastmaster II* and *The Lost World II*) have also been filmed there. More recently, *Crocodile Dundee III* began shooting at Movie World Studios and at other locations in the south-eastern part of the state.

Meanwhile, two proposals are pending that could provide relief to Australia's crowded studios. The PFTC is looking into the feasibility of backing a multi-studio development in Brisbane, with the preferred site being a former power station located 12 minutes from the Central Business District. Another feasibility study, undertaken by the Cairns-based Cape York Peninsula Development Association, is examining the establishment of a studio complex in Far North Queensland. ■

Short Takes

An Arresting Ad and a Festival Favorite

Suzuki Gets Surreal

by Stephanie Argy

For a Suzuki car spot shot in Puerto Rico, director Luis Gerard asked cinematographer Richard Rutkowski to create images with surreal and somewhat nightmarish qualities. "He wanted a really strong look to match the concept," says Rutkowski. In the spot, The Doors song "People Are Strange" plays as a man exits a restaurant and realizes that everyone around him, even a dog, is wearing a medical neck brace. He doesn't realize what's going on until the Suzuki Baleno car passes. As he twists his head around for a better look, his own neck is heard snapping.

"We looked at other commercials, photos in books, and settled on looks together," says Rutkowski. Eventually, the two decided to shoot in Super 35 and lend the imagery a very strong cyan look. To enhance the blacks, Rutkowski and Gerard also opted to employ a bleach-bypass process. Gerard had used bleach-bypass before for a series of Levi's spots. However, the results he'd achieved were quite different from what he wanted for the Suzuki commercial. "I liked it, and it worked well, but I wanted this new spot to be darker and more contrasty," Gerard says.

Rutkowski thus went to DuArt and got a tape of various bleach-bypass process tests. He then brought the tape to Puerto Rico and watched it with Gerard. Looking at the tape confirmed their initial impulse to apply the bleach-bypass during the print phase, rather than at the negative stage. "We decided to really go for it," Rutkowski recalls.

The spot was elaborately storyboarded by the director. "I can draw a little bit and I'm very visually oriented," says Gerard. "I love telling stories without any dialogue. I usually do the storyboards for everything I do, including the shorts I've done." Rutkowski says Gerard is especially gifted when it comes to composition. "He has a very strong visual sense," says the cinematographer. "His boards were a really good starting point."

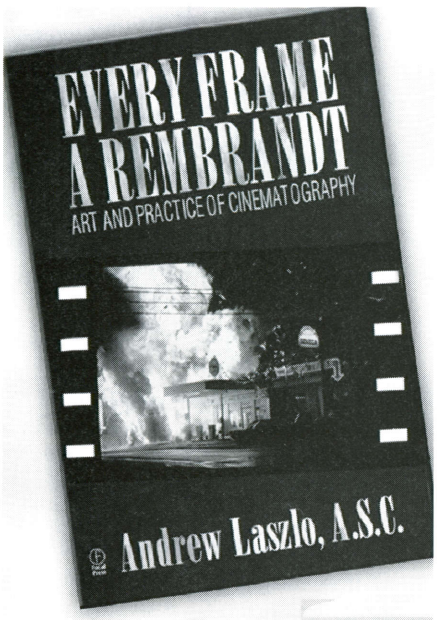
The commercial was shot in one 18-hour day with about 50 camera setups. Rutkowski used a locally hired Puerto Rican crew that he found to be very talented. The production camera was an Arriflex 435 obtained from PJ Gaffers, a local rental house. In addition, Paradiso Films, which produced the spot and has collaborated with Rutkowski on several shoots, made its own camera equipment available. The package was rounded out with a few lenses and filters brought in from the United States. The lenses on the shoot ranged from about 14mm to 100mm, "more on the wide end," Rutkowski says.

Gerard explains that he preferred wide lenses to establish a certain level of visual realism in the spot. "I wanted to keep it surrealistic, but visually, I wanted to keep it real and not push it," he says. He also wanted to be as subtle as possible in pointing out that everyone in the frame was wearing a neck brace. Given the greater depth of field that the wide lenses afforded him, he was able to keep the background people in focus, yet not call too much attention to them. "I wanted to keep things as organic as possible. I just wanted [the neck braces] to be there. You see people in the background as we have our main character in the foreground. We don't go close on the other people."

To achieve the bluish look Gerard sought for the spot, Rutkowski used cyan filters along with the polarizers he uses on almost every outdoor shoot. In addition, he used a Fogal 110 stocking behind

The Suzuki Baleno spot *Cuello* (or *Neck*) was shot in an 18-hour day in Puerto Rico with about 50 camera setups. Cinematographer Richard Rutkowski used cyan filters along with polarizers to achieve the bluish look.

Photos courtesy of Paradiso Films



This book examines the art and craft of motion-picture photography through a veteran professional cinematographer's personal experiences on five major motion pictures, each selected to illustrate a particular series of challenges for the photographer.

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the lens, a look he finds particularly amazing in Super 35. "Depending on the job, I'll almost always use some sort of softening effect," he submits, noting that this technique compensates for the extreme sharpness of today's stocks and lenses. "It's a little more pleasing to have a net or black ProMist [on the lens]."

He also tweaked the shutter angle and frame rate, commenting, "We skinnied the shutter up a bit." In general, he kept the shutter between 90 and 144 degrees. He did quite a bit of overcranking, too. "Very little was shot at 24 frames per second," he reveals.

Gerard explains that he wanted the pace of the commercial to build, starting slowly and then speeding up until the moment when the man sees the car. "We go to slow motion to punctuate that moment," says Gerard. "Everything slows down until the car leaves, and then you hear the sound effect as the guy twists his neck."

Rutkowski shot the spot on Kodak's Vision 200T 5274 film stock. "I use that stock all the time because it offers the greatest options," he maintains. He points out that using a slower stock can sometimes get a cinematographer into trouble; for example, the reduced shutter angle, polarizer, and high frame rate he used on this spot could take away five stops very quickly.

Even in September, the Puerto Rican location was very hot and sunny, but by the end of the long shooting day Rutkowski had to light the exterior shots of the commercial's lead character. "Any shot of him outside involved some lighting," says Rutkowski, who used various HMI Pars, either aimed through some sort of diffusion or positioned as far away as 20 yards so that the light essentially became a fill.

The most difficult shot, however, might have been one of a dog wearing a neck brace. The animal had to be entirely lit, and it also turned out to be a unexpectedly difficult subject. "Without my knowing it, they'd cast a jet-black Labrador," Rutkowski says with a sigh. "Naturally, once the light was basically gone, it was time to shoot the close-up of a black dog in a white neck brace." To get the shot, he had to fake daylight with a combination of direct lighting, light bounced off of a 4' x 8' beadboard, and light aimed through a 6' x 6' silk. "It worked," he says. "The spot's strong, graphic look helps. If it was a regular, cheery, happy shot, you'd notice a lot more."

After the negative was processed, a bleach-bypass positive was struck then transferred to video on a Spirit Datacine at DuArt. "I love the look of positive, I really do," says Rutkowski. "I think there's a real difference. The blacks are richer. It's more of a film and less of a TV look. There's a richer, more contrasty and tangible feel." He adds that working from a positive also focuses the look more quickly because there is less latitude in the colors: "Negative tends to wander more."

In this case, Rutkowski used a normal-contrast print, though many people often transfer from a low-contrast print. If there's too much contrast in the print, he explains, it can be impossible to get a nice, smooth gray scale. However, for the Suzuki ad, he chose to go with the normal-contrast print to get the deep blacks he wanted. "Nothing's really black on a low-con," he says.

Although Rutkowski has shot a number of music videos and commercials, he has spent much of his career focusing on features. The cinematographer has photographed *The Last Word on Paradise* for actor/director Ethan Hawke, and also the surrealistic *Kill By Inches,* which garnered attention for its striking look at this year's Los Angeles Film Festival.

This background has given Rutkowski valuable insight into the differences between shooting for features and commercials. One important distinction, he says, is simply the way shots are conceived. While a shot in a feature might go on for minutes, a shot in a commercial generally lasts about three seconds at most. "You have to put the punch in the shot right away," he says, conceding that some cinematographers are probably more adept at this than others. "I think some people who work mainly in commercials know how

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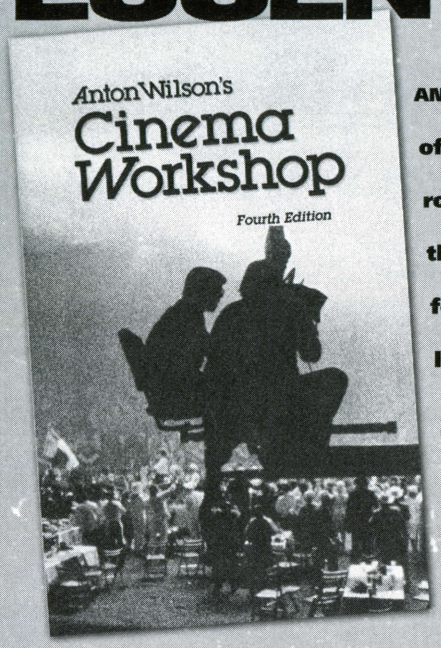

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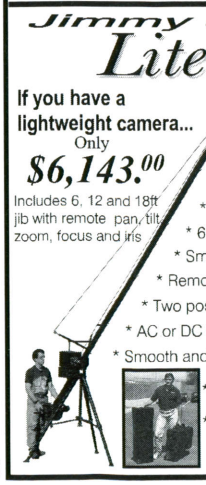

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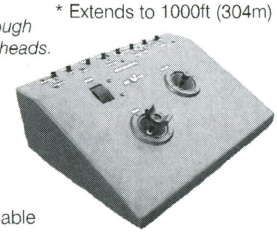


to do it better."

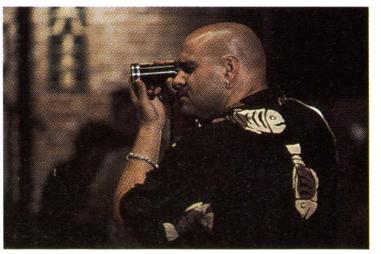
The other tendency in commercial cinematography, he says, is to go for an eye-catching look as opposed to the more classically based approach one finds in feature films. "There's a lot of visual pizzazz and sugar [in commercials]," he admits. Whether he's doing commercials or features, Rutkowski says he tries to make his shots dense with information, so that they're interesting to watch more than once or twice. In terms of the Suzuki spot, he cites some of the shots of the main character walking outdoors. "There's more interesting stuff going on than is apparent at first glance," he maintains.

Rutkowski has an especially strong sense of what will be effective on film, having spent years assisting such noted cinematographers as Ed Lachman, ASC and Eric Edwards. "The thing you learn most is how each deals with the entire process," he says. Although Rutkowski doesn't strive to emulate the cinematographers he worked with, he admits that both Lachman and Edwards have been particularly strong influences — Lachman for his very precise, motivated lighting, and Edwards for the great angles he manages to find. "I most admire people who create something different and unique each time," he attests.

Dear *John*
by Stephanie Argy

For the last three years, the International Cinematographers Guild (ICG) has hosted an annual showcase of short films photographed by up-and-coming members, especially those making the transition from assistant or operator to cinematographer. One of the most award-winning movies in this year's program was *John,* an American Film Institute (AFI) thesis film photographed by David A. Armstrong and directed by Marni Banack.

Made for a budget of just $29,000, *John* takes place almost entirely in a restaurant. "It's a simple film about a men's bathroom attendant," says Armstrong. The attendant, John, has



Clockwise from the top: *John* unfolds primarily in the men's bathroom of an upscale restaurant; cinematographer David A. Armstrong prepares for a shot; restaurant interiors were filmed at Matteo's in Los Angeles.

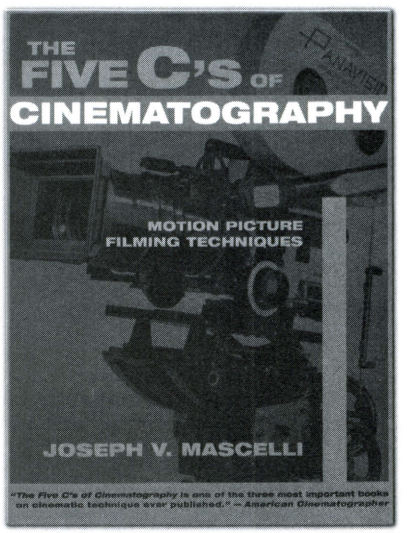
Photos courtesy of David A. Armstrong

worked at the restaurant for decades, but when his boss's son takes over the business, the attendant hears a rumor that his job might be in jeopardy. One night, after hesitating all evening, John musters the courage to approach his new boss, only to learn that his fears were baseless — John's job remains intact, and the only change in the men's room will be from cloth to paper towels.

A relieved John packs up his station at the end of the night and says good-bye to his co-workers. After he walks a short distance from the restaurant, he speed-dials his wife on his cell phone and rattles off a number of business tips he heard while attending to customers that evening. The movie ends with our hero clicking off the phone and driving away in a shiny new silver Mercedes with a personalized license plate that reads "John." According to Armstrong, audiences at film festivals invariably cheer at the ending. "It's a great 'we gotcha,' and we gotcha in a nice way," he says.

Most of the action in *John* takes place in the restaurant bathroom, which was a constructed set. "My lighting approach involved small tidbits that added up to the look I wanted," Armstrong says. "I didn't use big sources on *John*. This kind of lighting wasn't possible 10 or 20 years ago [because] film stocks were not as sensitive as they are now."

The movie was also shot in a venerable Los Angeles restaurant called Matteo's. "The director and I agreed that the restaurant had to be a character," says Armstrong. "It was very important to find a restaurant that was well-established." Matteo's, an old-time Hollywood haunt once frequented by famous patrons such as the late Frank Sinatra, fit the bill perfectly. However, the restaurant was available to the filmmakers only when it wasn't open: from 5 a.m. to 3 p.m. daily. Armstrong therefore had to find a way to light quickly and efficiently while minimizing the amount of equipment that would have to be torn down at



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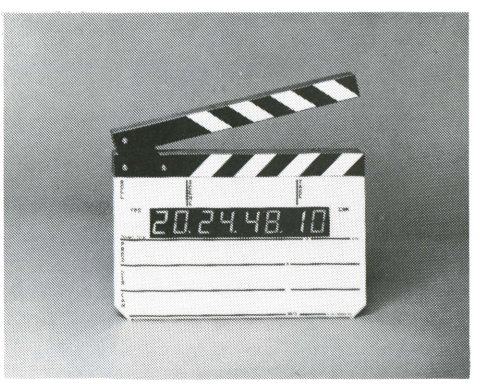

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the end of each day.

He decided the best approach would be to work as much as possible with the restaurant's existing fixtures. Each booth in the restaurant has its own lamp, and Armstrong replaced the lightbulbs with color temperature-corrected, 75-watt PH 211s. This meant that rather than rigging complicated lighting at the start of each day's shooting, Armstrong and his crew could instead just swap out the 25 or so lightbulbs in the lamps. In addition to the booth bulbs, Armstrong's crew clipped Dedo lights to the ceiling to cast spotlights onto the tables.

To maximize what he could do with low-level lighting, Armstrong shot the film with Kodak's 320 ASA, tungsten-balanced 7277 emulsion. "I've found this film to have unbelievable latitude," he says. "It seems to offer five stops of latitude on each side." In one scene, John leaves the bathroom, turning out the light as he goes. When he does, the only lighting in the shot is provided by two 40-watt lightbulbs over the doorway. Armstrong recalls that his meter actually had no reading, but he did the shot anyway to see what would happen. At dailies, he was delighted to see how the shot turned out. "There was detail in shadows I thought would not be there on film. That's when I realized how deep the 77 stock will go," he says. "This film digs."

However, the incident prompted Armstrong to start taking his readings in footcandles rather than f-stops. "The lowest my light meter would go was f7," he says. Although some lighting was too low to register in f-stop terms, he could still get a reading of 5-10 footcandles. "I went a little old-school there," he says. "I wanted to know what the dark, dark parts [of the frame] were."

An AFI rule requires that its second-year productions be shot on 16mm, so Armstrong used an Arriflex SR-2 provided by the school. He employed prime lenses exclusively, opting mainly for the 12mm or 25mm lengths. "I'm not crazy about zooms; I can see the difference between primes and zooms, and the look of *John* required a crisp look that I could only get with primes," he says, noting that he also

used only very light filtration: "If I use anything, I use a Mitchell A or a very light black Tiffen ProMist." For *John,* he remembers using nothing heavier than a ⅛ to ¼ ProMist.

Armstrong worked his way up to the cinematographer's rank through various jobs in the camera department. After graduating from California Institute of the Arts in 1988, he served as a camera assistant for seven years before returning to school at AFI for a master's degree in cinematography. "AFI was about honing myself as a cinematographer," he says.

Both at AFI and as a professional cameraman, he found his experience working for seasoned cinematographers, such as Roy H. Wagner, ASC, extremely helpful. "Those years served me in ways I never expected," he says. For one thing, he found he had a natural confidence on set. After enough experience, he says, "You know what people can and can't do, and you know how long things take. It helps you to move quickly."

Even more importantly, working on sets before becoming a director of photography gave him a stronger connection to the crew. "You understand what the crew is going through both as people and as technicians," he says. "I still ask for what I want, but I ask in ways that engage. You get more out of people if you engage them." In talking to a gaffer, for example, he will explain what he wants and allow the gaffer to figure out how to get it. "It really is a team sport, even though individuals get singled out. I'm only as good as my key grip and gaffer."

Armstrong admits that because his background was mainly in camerawork, he was initially a bit intimidated by the tricky discipline of lighting. It was in this area that his training at AFI really helped him; while assisting on the many student shorts during his first year at the school, he always asked to be the gaffer. "I did it something like 20 times my first year, because that's where I was weakest," he concedes. Even when fellow students asked him to be the camera assistant on their shorts, he turned them down. "It wouldn't have served me to do something I already did well."

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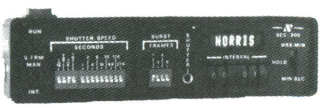

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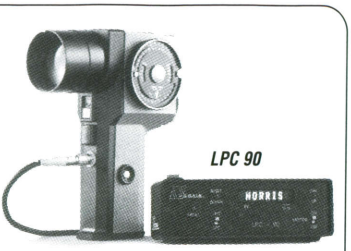

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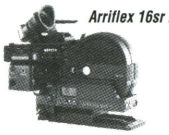

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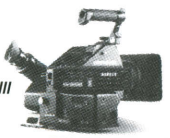

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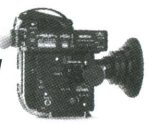

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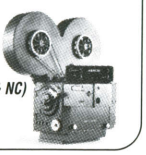

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He adds that he was able to learn a lot about lighting from other students in the cinematography program. "I really had an amazing class — 23 cinematographers and no egos." In turn, Armstrong was able to offer his classmates some of what he knew about working in Hollywood. "Being a technically good cinematographer is a small fraction of what makes a successful director of photography," he says. Equally important is a person's ability to communicate and be sociable. Armstrong admits to having a preference for camera assistants who have a sense of humor. "People will hire you for the strangest reasons, [and] a good sense of humor can really help you through a tough show."

From AFI instructors such as Bill Dill, Armstrong has also learned about the role of cinematography in an overall production. "Everything you do has to serve the story," he notes. In the case of *John,* one particularly impressive shot at the start of the film had to be eliminated. "It was a great Steadicam shot, but it took us away from the story," says Armstrong. "It doesn't matter how good-looking the film is — if the story is no good, it won't get seen."

That said, he observes that audiences really seem to connect with the story of *John.* The movie has played very well on the festival circuit, winning more than 20 awards, and it was even screened in the American Pavilion at Cannes. The short then went on to racked up a series of high-profile national awards, including the DGA Student Award (see *AC* Oct. '99), the ASC Student Award and the Student Academy Award Gold.

Actor Steve Guttenberg was so impressed with *John* that he hired Armstrong, director Banack and editor Derek Vaughn to work on his directorial debut. An adaptation of the play *P.S. Your Cat Is Dead,* the film is now being co-directed by Guttenberg and Banack. "All of the mileage we got out of *John* surprised us," Armstrong marvels. "Who knew we'd get such a boost from a little film about a bathroom attendant? ■

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compiled by Douglas Bankston

A Digital *Revolution*

Advancements in digital-intermediate technology bring a whole new range of image control to feature filmmakers.

by Christopher Probst

The traditional photochemical color-timing and printing process has changed little since the modern motion-picture color negative-origination emulsions were introduced. Typically, this process first involves viewing a cut workprint that is provided with a set of recorded printer-light values established by the laboratory's dailies color timer on an electronic analyzer (or Hazeltine). Decisions about the overall density (brightness) and color rendering of a scene are then made by the color timer and filmmakers. Based upon this feedback — and utilizing years of experience — the timer will make an educated adjustment to the printer-light values to achieve the filmmakers' desired look. By controlling the intensity of the three white-light components in the printer — RGB in an additive system and YCM in a subtractive system — the timer can achieve changes in the print-film's coloring and density. (See *AC* May '97 for more on color timing.) A second film print will then be struck with the new printing-light values, and the process will be repeated until all parties agree that the desired look has been achieved throughout the film.

As cumbersome and time-consuming as it sounds, this method has produced the wide range of spectacular and inspiring imagery seen in theaters to this day. However, it has inherent limitations. For instance, density and coloring adjustments are limited to the entire image in the scene. Individual elements within the frame cannot be affected without resorting to more esoteric steps, which are typically executed by a visual-effects facility — though certain custom lab techniques such as silver-retention processes, cross-processing, and flashing (see "Soup du Jour," *AC* Nov. '98) have been utilized to add a further degree of manipulation to cinematic imagery. Additionally, only a few labs offer the ability to make overall density and coloring shifts (by dynamically controlling the printing-light valves) within a continuous shot.

The desire for further image-manipulation control has been compounded over the last decade by the staggering advancements made in the electronic manipulation of filmed images transferred to video in a telecine bay. Typically pushed to extremes in commercials and music videos, telecine systems and ingenious film-transferring techniques and devices have enabled filmmakers to achieve almost total image control. Beyond general coloring, individual areas of a frame can be adjusted (lightened, darkened or color-affected); individual hues of a color can be isolated and altered in brightness, hue and saturation; and a shot's coloring can also be dynamically adjusted in all of these ways throughout the course of an individual take. (See *AC* June '99 for more on telecine coloring.)

"The difficult part of the digital color-timing process is the balancing act between doing the color correction and outputting the final film. There seems to be a big line of confusion between those two steps."

— Nathan McGuinness, Asylum Visual Effects

Of course, filmmakers who have experienced this level of image-control flexibility in the telecine have become acutely aware of the shortcomings of traditional film color timing. As directors and cinematographers navigate more frequently between feature films and commercials/music videos, the two (often adversarial) realms have slowly begun to merge. In the case of the recent Jerry Bruckheimer production *Gone in 60 Seconds*, director Dominic Sena and cinematographer Paul Cameron both hailed from commercial backgrounds (see *AC* June '00). For that film's climactic, 15-minute car chase, which was photographed over 38 days in a variety of lighting conditions, the need to integrate more precise color control led the filmmakers to enlist the aid of two forerunners in the digital color-timing frontier — Nathan McGuinness, founder/visual effects supervisor of Asylum Visual Effects, and Stefan Sonnenfeld, founder/colorist of Company 3.

McGuinness, Sonnenfeld and Pat Sandston, associate producer of *Gone*, worked together to achieve the final color-balancing act for the chase sequence digitally. The digital intermediate process had already been explored to a limited degree for the film's striking trailer, and Sandston also supervised the digital manipulation of the coloring for

the tunnel chase scene in *Enemy of the State*, which was altered in 2K resolution on an Inferno by Mill Film in England as a visual effect. However, the proposed process deviates from traditional visual-effects manipulation; by utilizing a Spirit Datacine telecine equipped with a DaVinci color corrector, images "scanned" at 2K can be colored within the more familiar and comfortable environs of a telecine bay.

"I suggested using a 2K Spirit Datacine to color-correct the chase scene in *Gone in 60 Seconds*," relates McGuinness. "The difficult part of the digital color-timing process is the balancing act between doing the color correction and outputting the final film. There seems to be a big line of confusion between those two steps. Getting a Spirit color correction out to a film print involves a whole heap of steps, starting with the collaboration between Stefan and me in determining how best to create the look intended. There's kind of a tug of war between color correction vs. output — knowing when not to crush the blacks too much, or when to pull back a bit in another area of the image only to add it back at a later stage. Through trial and error, we kept designing and refining ways to ensure what we saw on the monitors was what we were going to get on the output film."

Of course, visual-effects houses have been performing CGI-type manipulation of imagery for a number of years, but those cases have generally arisen out of a need to "fix" things or execute costly effects sequences. "Digital color correction is not just about having a 2K board," states Sonnenfeld. "There are plenty of other companies that can scan a negative. This process is much more about the collaboration between us and the filmmakers — establishing a certain comfort factor. The 2K Spirit has made this process more accessible, affordable and efficient — and certainly less time-consuming. In the past, doing 2K scans was extremely slow and expensive, [but] this process is real-time. You see the look you're going for immediately.

"What Dominic Sena and Paul Cameron did on *Gone in 60 Seconds* was a perfect example of what this process is great for: they had 500 shots photographed over 38 days [at locations] all over the place and at different times of the day, and they needed [the sequence] to be consistent," he continues. "So they spent a day doing color correction, then Nathan and I tweaked the material from there. Getting the shots to match wasn't difficult at all; colorists do that every day on commercials. The difficult part is translating that coloring so it can be output to film; Nathan and I oversee the image quality all the way through the process."

"A cinematographer might use less filtration — shooting clean — knowing he can achieve the coloring and diffusion during the telecine process."

— Stefan Sonnenfeld, Company 3

Sandston observes, "There is a lot of fear within the film community that [digital color correction] is going to take away from the photographic process, but it doesn't. It is a tool to help the cinematographer achieve even more. If you look at the photography of *Gone in 60 Seconds*, the 90 percent of the film that was traditionally timed is so beautiful and saturated that there was no reason to do the rest of it digitally. However, the car chase did lend itself to the digital process, and [the filmmakers] were open to the new technology.

"I'm sure all of the cinematographers we work with could make every shot of a film look beautiful if you give them the time," Sandston continues. "However, they're under the same type of production restraints as everyone else. Sometimes you have to shoot when the light's not perfect. This technology can give a cinematographer a second chance to achieve what he wanted to do on the set."

Sonnenfeld notes, "A lot of the top feature cinematographers shoot commercials between features, so they're very familiar with the telecine environment and get to experiment with all of these high-end tools. On features, what they usually wish they could do is bring a side of the frame down a touch and take a little bit of red out of a face without making another actor look pale, but until now they haven't been able to. This technology now gives them that freedom. Knowing what can be done in a telecine bay can affect the shoot as well; a cinematographer might use less filtration — shooting clean — knowing he can achieve the coloring and diffusion during the telecine process. That's why this has to involve a close collaboration among [the colorist, the output house and the clients]."

It should be noted that all of the functioning controls of traditional lab timing factor into the digital-intermediate process. "We couldn't have done the work on *Gone in 60 Seconds* without the help from Technicolor," states Sandston. "You can't just take a piece of negative and make it look like anything you want in the coloring. The film stock can only do so much. We worked with [Technicolor timer] Bob Kaiser, Stefan and Nathan [to get the look we wanted]. As we scanned stuff out, Bob would comment on what was going to happen to the image when it got to release printing, then we would go back to address those issues.

"Also, the release prints in New York and Los Angeles, about 300, were all done on Kodak Vision Premier. With most of the film taking place at night, and with the highly saturated look Dom was going for, the Premier prints looked great. So you definitely have to keep in mind what is going to affect the negative when you go to release printing."

"In utilizing the traditional printing process with a digital intermediate," adds Sonnenfeld, "you're *almost* going from a perfectly timed element that might just need one final, little tweak. And that is always dependent on the final film process and how it looks on the screen. But it's still good to have [further control] available. Sometimes, depending on the amount of a tweak needed in

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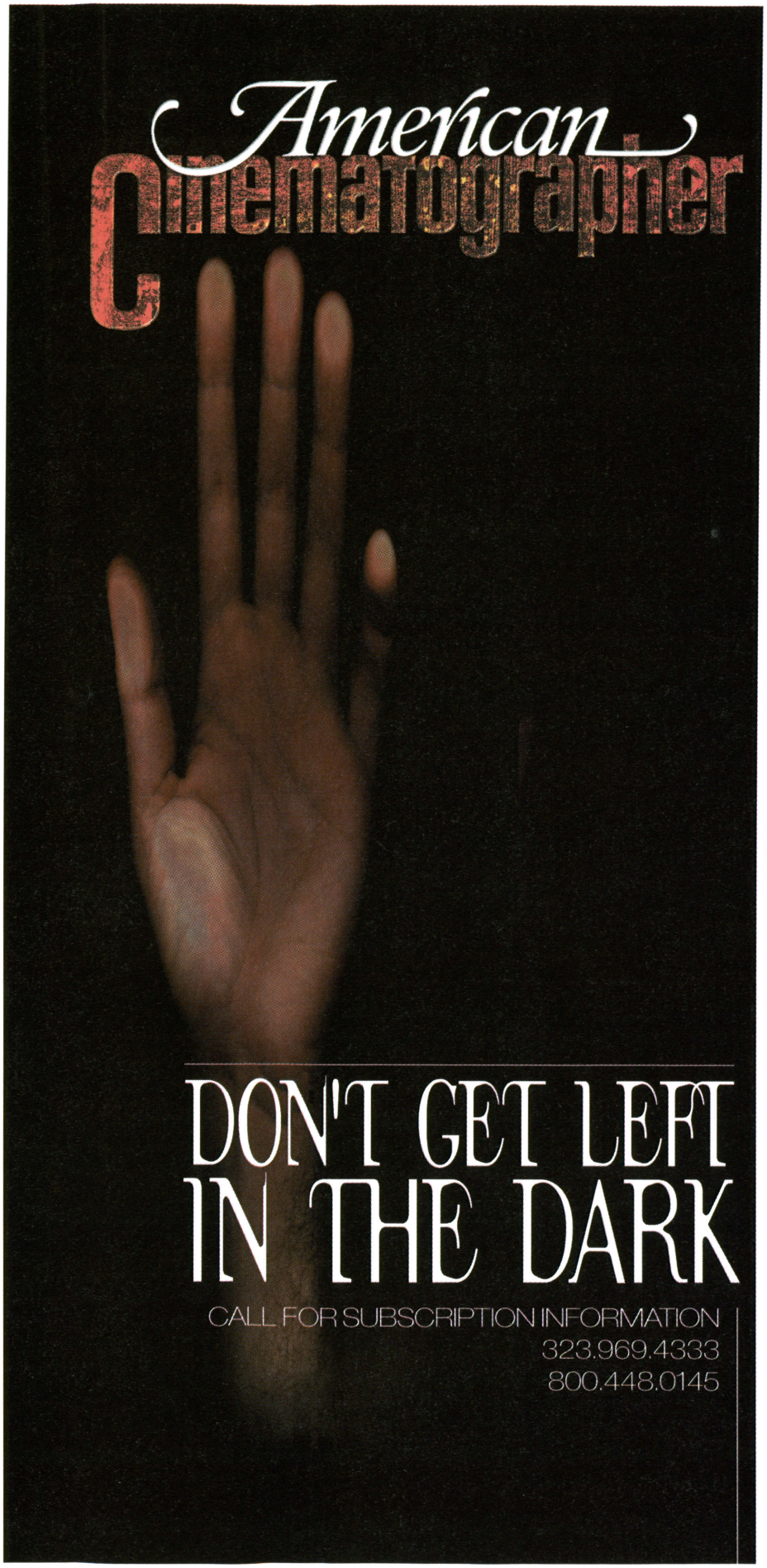

a certain shot, we wouldn't go back and re-scan; instead, we'd just brighten up the image a point or two in the printing process.

"We recently digitally color timed the *Pearl Harbor* teaser for Michael Bay," he continues, "and that went incredibly smoothly because of what we had learned about the process on *Gone in 60 Seconds*. We did 42 shots in about four hours of coloring and had the final output less than a week later."

Asylum and Company 3 have made further refinements to the process — Company 3 has acquired DaVinci's latest 2K data board, greatly expanding the color corrector's capability at full 2K resolution, and Asylum has purchased an Arrilaser film recorder to enable in-house outputting of digital intermediates.

Concludes McGuinness, "I can see that the future of color correction for features will probably involve a colorist in a 'timing' theater, with something like a Texas Instruments digital projector and a DaVinci color corrector in the middle of the room laying down the corrections to some form of e-cinema format like digital D-6. That way, the director can immediately see what he will get in the final output on the screen in the theater. Actually, we're capable of doing that right now; someone just needs to set it up."

For more information on the digital-intermediate process, contact: Company 3, (310) 586-3800; Asylum Visual Effects, (310) 395-4975.

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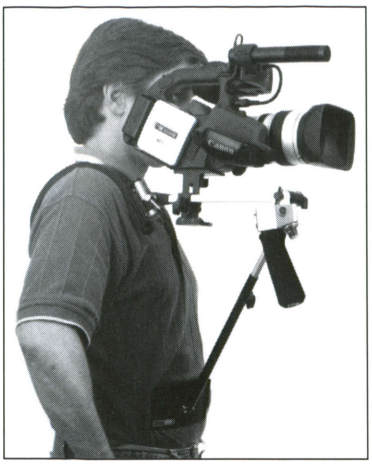

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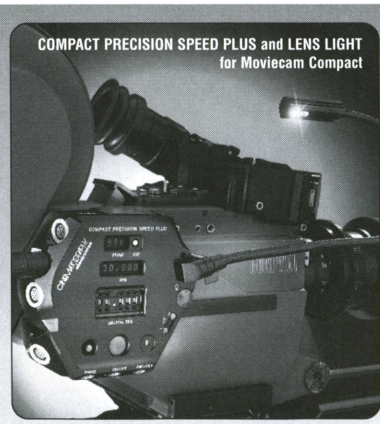

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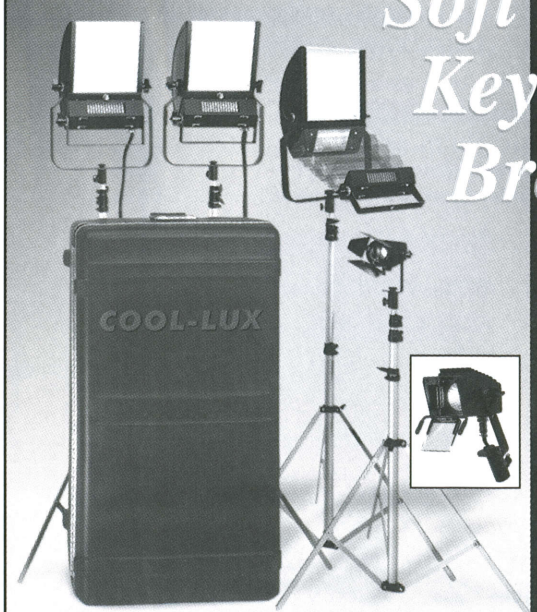

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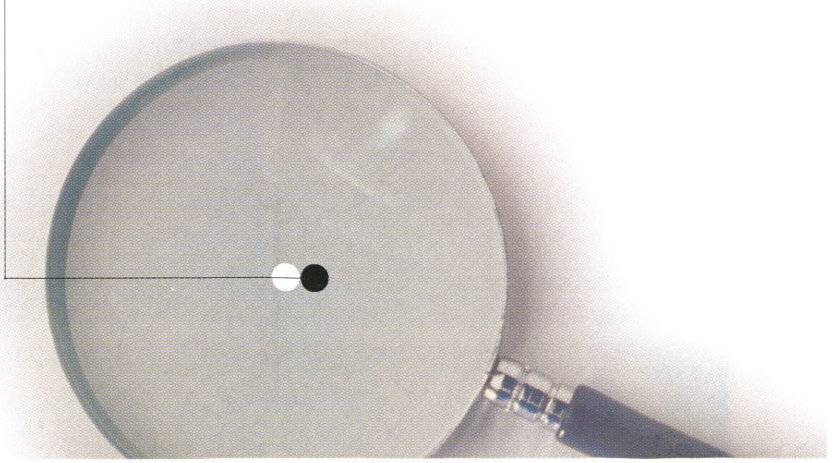

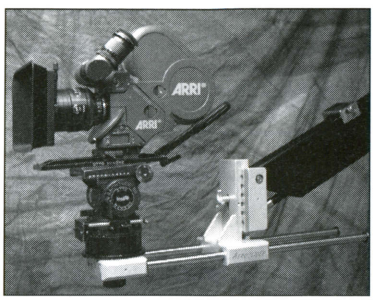

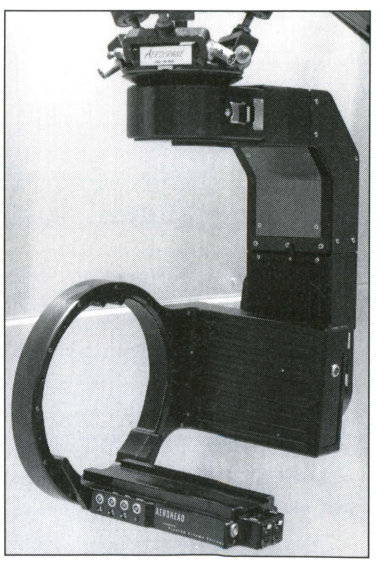

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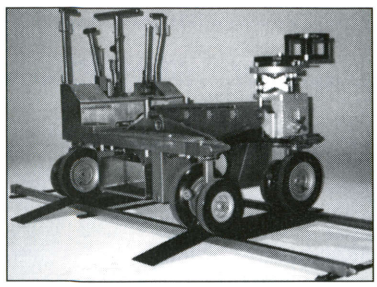

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After many years of struggling with weighty dollies, assistant cameraman Jim Marshall and partner John "Chappy" Goraj decided to create a product to simplify the tracking of a dolly, especially when faced with the difficult task of having to place the dolly onto track from the side.

Their engineering has resulted in the Cramps, which stands for "crab ramps." Cramps are two identical pieces of fabricated, lightweight aluminum with a hinged plate, or ramp, which folds up inside the main body. The Cramps are fitted onto the standard dolly track with either round or square rails, and the dolly is then rolled up in the crab position onto the track. Once on top, the dolly is simply rolled off either the front or back of the Cramps and onto the track.

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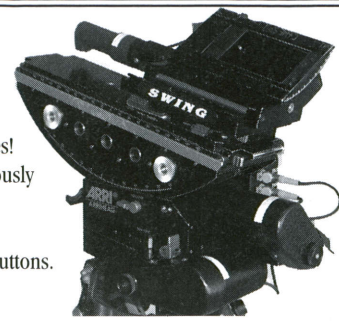

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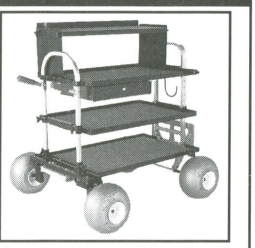
Mag Senior shown with Top and Bottom Shelves, HD Nose, Grip/Light Caddy, Handles, 8" Wheel Conversion Kit, Dual Axle Kit , Video Pin, Video Bracket and 9" Monitor Trays.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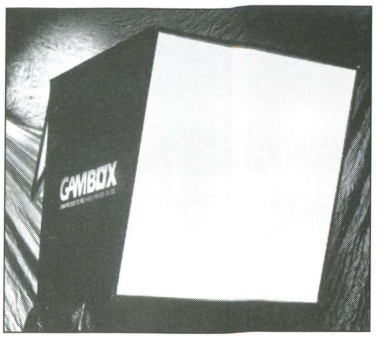

With the GAMBox, there is only a ¼ f-stop of light fall-off in 25 feet. It also eliminates boom shadows. The unit can hang from single or multiple points and can be used either individually or in a series. It is constructed with 6061 T6 aircraft-quality aluminum. The outside finish is coated with textured black powder, while the inside surfaces are reflective metal. The light mount and support brackets are made of welded 1 ½" tubular aluminum for direct fixture mounting. The GAMBox can be folded for storage and transportation, measuring approximately 4' x 4' x 5". Light mounting rails and braces can be stored flat.

GAMProducts, Inc., (323) 461-0200, fax (323) 461-4308, Web site: www.gamonline.com.

Kodachrome Processing

Dwayne's Photo of Parsons, Kansas, is the only processor of Kodachrome motion-picture film in the United States. The laboratory processes Super 8, standard 8mm, and 16mm movie formats and 35mm still format. They have same-day service for Super 8 and the 35mm still format. Dwayne's also offers push/pull Kodachrome processing. Their services are available to anyone using Kodachrome motion-picture film.

Dwayne's Photo operates an on-site analytical laboratory with a professional chemist conducting daily analyses of the processing solutions to maintain the tightest control. Dwayne's also participates in Kodak's worldwide Kodachrome monitoring program; process control and chemical data are submitted and reviewed by Kodak each month.

Dwayne's Photo, (800) 522-3940 ext. 31, Web site: www.k-14movies.com. ■

Points East

Saving Past Classics at Cineric

by Eric Rudolph

Although total digital restoration of feature films is still prohibitively costly, a New York City company called Cineric Inc. is using computer technology and photochemical processes to preserve and restore disappearing color-film treasures. Balázs Nyari, founder and president of Cineric, says that unlike many companies that do preservation and restoration work, Cineric's specialty grew directly out of the principals' visual-effects expertise. "Most restoration and preservation companies come from a lab background," he notes. "Our approach to restoration is a direct outgrowth of our experience in the *Star Wars*-era of visual effects [during the late 1970s and early '80s]. As an optical cameraman, you had to know how to perfectly line up a matte and precisely register [multiple film elements]."

This experience, along with "the special skills required to make composited scenes come to life onscreen," accounts for much of Cineric's expertise in rescuing damaged film elements, Nyari explains. Several of the company's principals were enlisted for the visual-effects team of the 1982 computer-game fantasy film *Tron*. Later, they thought they might have success adapting techniques used on that film for restoration work. "We asked ourselves if the color-mask techniques we used to obtain better color saturation and deeper blacks on *Tron* could be used in film restoration," Nyari recalls. "That was the origin of Cineric's proprietary color-fading restoration approach."

To correct serious color fading, Cineric focuses on the yellow emulsion layer. "The yellow layer is the first to fade," Nyari explains, adding that such fading gives deep shadows a blue cast and turns the whites and highlights yellowish. "If it is faded 50 percent or less, we can make a color mask that re-creates that missing information." Cineric has created film-length yellow layers for such classics as *Bell, Book and Candle* and *The Seventh Voyage of Sinbad*. Magenta and cyan information is also added as needed, but to a much lesser degree.

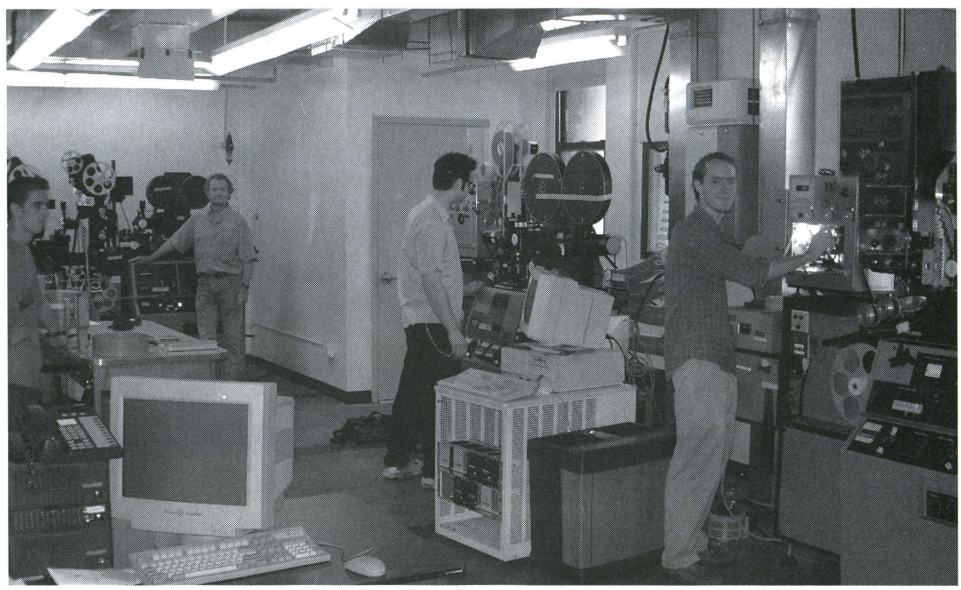

Photo courtesy of Cineric, Inc.

Cineric technicians inspect film prints at the New York-based company. Recent restoration projects have included *Bell, Book and Candle* and *Funny Girl*.

Tom Heitman, Cineric's director of preservation and restoration, declined to explain how the yellow matte is created, saying only that it is a proprietary photographic process made more efficient by the use of a great deal of computing power. Grover Crisp, vice president of asset management and film restoration for Sony Pictures Entertainment, says the *Bell, Book and Candle* restoration was "very successful. Cineric is at the forefront [in terms of restoring faded color films]. They are constantly trying to improve [those tools]."

However, Cineric does not simply replace faded color layers. Its technicians also work from whatever material is available to create new, pristine masters of beat-up classics. Crisp notes that another long-term Cineric project is the nearly completed restoration of the Barbra Streisand vehicle *Funny Girl*. "Tom Heitman took the lead in reconstructing a negative that was in very bad shape," Crisp notes. "Substandard duped portions and poor opticals had been cut in," and the original camera negative was badly worn, having been used to make more than 200 initial prints.

Heitman worked from YCM separation masters (made from the original Eastman Color negative at the time of the film's release) and several IPs, among other elements, to create B-

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rolls to replace the inferior sections of the original negative. The finished product will be release-printed using Technicolor's new version of its old imbibition dye-sublimation process. "*Funny Girl* is going to look fabulous," Crisp enthuses.

Nyari proudly notes that his company has a few other proprietary tricks up its sleeve. One of Cineric's central methods brings to mind the Hippocratic oath's familiar phrase, "First, do no harm." Multiple runs of old negatives, nitrate film, YCM separations, internegatives and interpositives create wear and tear on already fragile film, so Cineric devised its Single-Pass System, a way to evaluate the restoration needs of an entire feature based on a single optical-printer run, as opposed to the six or seven unspoolings typically needed. This is possible thanks to Cineric's Cinebase software program. Cinebase automatically prints seven frames from each of a film's cuts (the first and last frames and five frames in between) during the first run through one of the company's two Oxberry 1100 series optical printers.

The resultant seven-frame-per-cut element is then analyzed, timed, re-registered and color-corrected. "[Then] cinex test prints are made until we are satisfied with the result," Nyari details. This system is so reliable, he adds, that very often "our first answer print is the last print." (At the same time, he acknowledges that it is not always possible to make a proper analysis from only seven frames per cut. That, he says, is where the company's expertise in analyzing color film by eye comes into play.)

Another key tool in the Cineric arsenal is the full-immersion, adjustable liquid gate, which the company helped to invent, Heitman says. "To the best of our knowledge, we have three of the four adjustable liquid gates in the world," he maintains. Nyari explains that an adjustable liquid gate allows severely shrunken film to be easily realigned for optical printing via registration pins that can be set as small as a two-perf pull-down. Liquid gates are common film-restoration tools; they handle film gently and prevent slight scratches and holes that have not intruded into the color layers from showing up when the original is copied. According to Heitman, the original runs through perchlorethylene in the special gate. Perchlorethylene has the same light-refraction value as the film, so it prevents the light from bouncing off of the edges of the defects, rendering them invisible to the copy film.

Another Cineric specialty is preservation and restoration of Techniscope non-anamorphic widescreen films, which is facilitated by the adjustable liquid gates. Techniscope, now essentially an abandoned film format, uses a two-perf pull-down; a tiny 1:23.5 widescreen image is exposed onto the film using spherical lenses. The company's most notable such assignment was George Lucas's 1973 smash hit *American Graffiti*, for which Cineric created an answer print with new timings in the late 1980s. (Nyari calls the assignment more of a preservation than a restoration). "The old timings don't work with the new release stocks," Heitman notes. Cineric also did preservation work on Lucas's first feature, the cerebral 1971 sci-fi thriller *THX 1138*, which was also shot in the Techniscope format. In addition, the company recently restored several Techniscope titles from the legendary British Hammer horror archives, including *Curse of the Mummy's Tomb*, which had just been completed at press time.

Film restoration and preservation, however, is only part of Cineric's business. Its primary specialties are visual effects and titles, including work on such recent high-profile projects as the 2000 remake of *Shaft*, Martin Scorsese's *Bringing Out the Dead*, and last year's surprise smash *The Sixth Sense*. They also do digital scene restoration, video-to-film transfers, film recording of digital images and blow-ups from 16mm to 35mm, including the recent *American Movie* and *The Daytrippers*. "There is always something at Sundance from Cineric," Nyari quips. ■

Books in Review

by Ray Zone

The Art Of 3-D Computer Animation and Imaging — Second Edition
by Isaac Victor Kerlow
John Wiley & Sons, Inc.
434 pps., paper, $59.95
ISBN 0-471-36004-X

Isaac Victor Kerlow really knows his stuff. He is director of new talent/new technology at the Walt Disney Co. and has been a longtime instructor in computer graphics. Since the publication of the first edition of Kerlow's *The Art of Computer Animation and Imaging* in 1996, computer animation has undergone quantum changes in both technology and techniques. Revising his book to include 3-D rendering, Kerlow provides updated information in this second edition on the most recent developments in hardware and software.

Since a great many established visual-effects professionals have had to acquire new skills, Kerlow notes that "it is time to accept the advantages that computer technology has to offer, to continue developing the promising possibilities, and to let rest the options that have not yet matured." His book is both creative and technical in approach. It presents a step-by-step explanation of the process of completing a fully rendered 3-D animation in simple terms that are not platform-dependent.

This paperbound book includes 500 full-color images and presents as clear an overview of the subject of 3-D animation as has appeared in print to date. The first chapter presents animation, art and technology in context with a concise history of computer technology. Useful sidebars with quick indexes and notable landmarks fill the margins of the text, along with historic computer-generated images. Color-coded timeline charts of 3-D computer animation, organized in five categories, wrap up the historical overview of the first chapter.

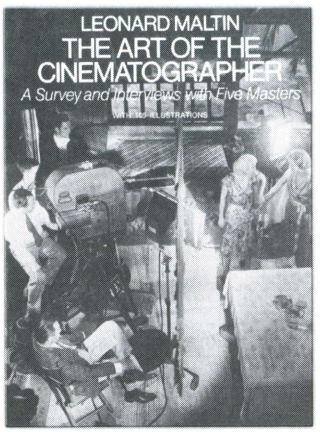
Each chapter includes a list of key terms, and the entire book is organized in an eminently useful manner. The digital production process is covered in detail, with separate sections on production strategies, the animation studio and the creative and production teams. An overview of the computer-animation process, as well as 10 career tips for computer animators and digital artists, launches the reader into the large section on modeling. This covers concepts and techniques such as geometric primitives, utilities and hierarchical structures. Advanced techniques — freeform curved surfaces, subdivision surfaces and photogrammetry — are covered in a separate chapter.

Rendering is discussed in detail, from ray tracing and camera types to lighting and shading techniques. A wealth of illustrations highlight the aesthetic and technical dimensions of animation. The book closes with a section on post-processing.

Most books on 3-D computer animation are platform-specific. Kerlow has given us an overview of the field that is useful to film historians, students and practitioners — regardless of their hardware or software choices.

Visual Effects Cinematography
by Zoran Perisic
Focal Press
240 pps, paper, $36.95
ISBN 0-240-80351-5

Zoran Perisic, ASC is the inventor of the "Zoptic Technique" for special visual effects, which enables a subject to



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by Leonard Maltin

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Cinematography Screencraft

by Peter Ettedgui

The 17 directors of photography profiled in this book encompass three generations of filmmaking, representing a wide range of visual styles — from *The African Queen* to *Delicatessen*. Lavishly illustrated with over 500 color pictures, 300 black-and-white photos, and numerous diagrams, this reference features informative accompanying text based on interviews with each cinematographer. This is a perfect book for practicing professionals, students, and movie buffs alike.

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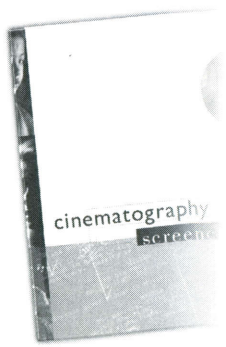


appear to move in visual space while its position relative to the camera remains constant. Perisic used his Zoptic device on *Superman* (1979) and won an Academy Award for his efforts. Other notable films that benefitted from Perisic's efforts are *2001: A Space Odyssey* (1968), *Batman Returns* (1992) and *Titanic* (1997).

Writing in the September 1977 issue of *AC*, Perisic explained some of the many effects possible through Zoptic cinematography. "The obvious applications of Zoptic technique are for making objects or people appear to fly or simply grow and shrink. Apart from this, it can be used to add realism to a scene." In using the Zoptic technique, front or rear projection through a zoom lens is combined with a rephotographing of the same background and a subject via a matching zoom lens on the camera.

Perisic writes with great clarity on the complexities of special visual effects. Now he has produced an invaluable book that examines traditional and modern techniques and illustrates how the new digital procedures have built upon photographic processes. "All new techniques build on existing ones," Perisic writes. "In order to find the most efficient solution to any particular visual-effects problem, it is essential to have an understanding of all possible alternatives."

The author divides visual effects into four categories: models and miniatures, matte paintings and stills, live-action effects, and animation generated via cel or computer. A thorough discussion of mattes and the means by which they're created follows, and the fundamentals of process projection, blue- and greenscreen, color differences and traveling mattes are covered.

A comprehensive chapter on visual-effects compositing covers the use of perspective, lenses, lighting and color temperature. Armed with these fundamentals, the reader proceeds through visual-effects preproduction and planning, from conceptual design and storyboarding to script breakdown, scheduling and budgeting. Highly illustrative line drawings and photographs accompany the text throughout the book.

Part Two of the book comprises a technical tour of visual-effects tools and the "Nuts and Bolts" of production. In-camera effects, lenses and filters, laboratory effects and the bipack camera are discussed. Optical printers and the animation rostrum camera are covered in detail. The chapter on process photography, which focuses on Zoptic techniques, allows Perisic to shine. The final chapter on digital effects brings the volume up to date with coverage of film-to-digital transfer, CCD chip cameras, and digital image manipulation and storage. With more than 50 illustrations and great organization, this book is essential reading for all students of visual effects.

Movie and Television Locations: 113 Famous Filming Sites in Los Angeles and San Diego

by Leon Smith
McFarland & Company, Inc.
295 pps, library binding, $38.50
ISBN 0-7864-0605-4

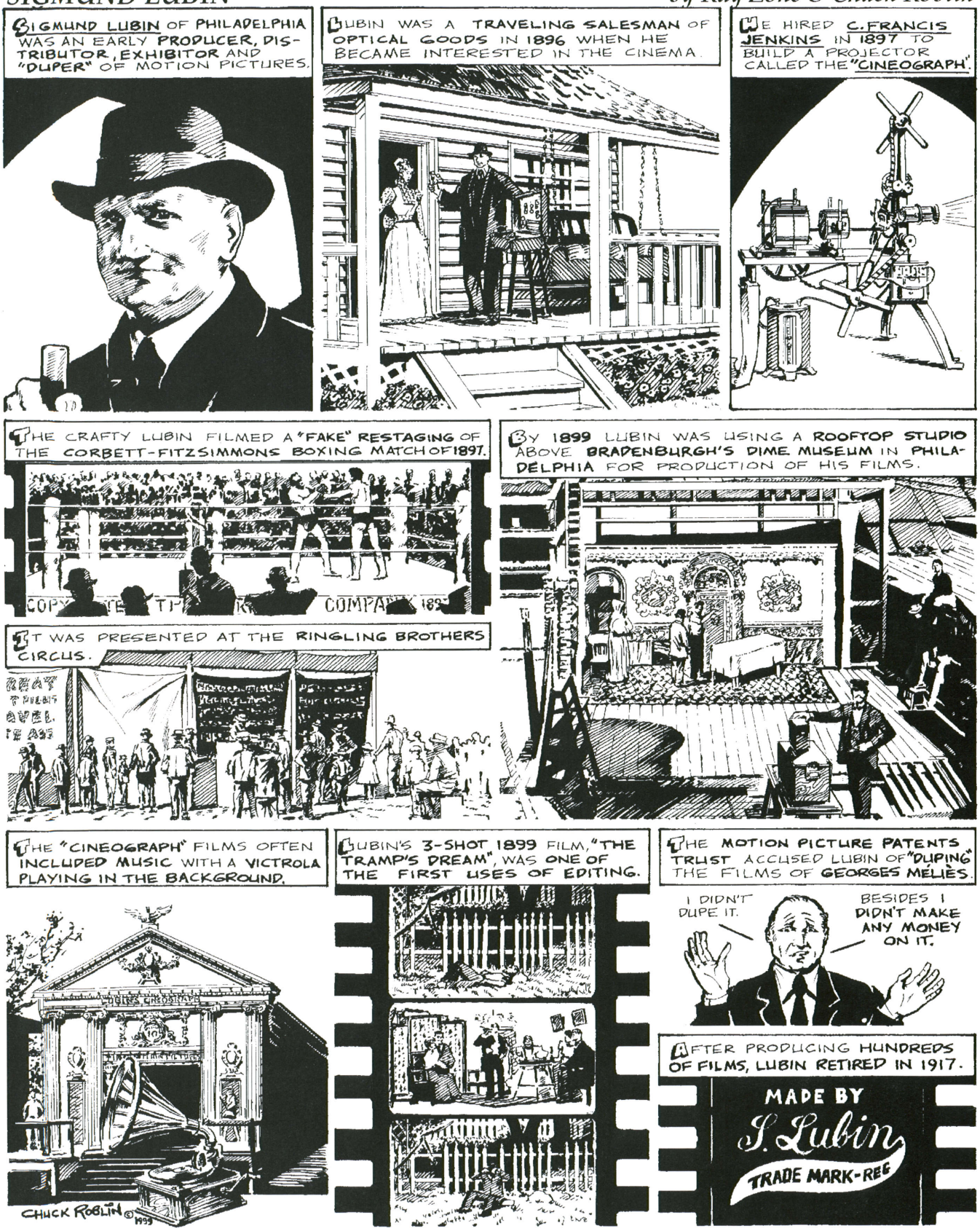
Leon Smith is a retired police detective who began to research film and TV locations in the early 1950s. "Recognizing the importance of such locations to film historians, film buffs and the motion-picture and television industry," he writes, "I have spent more than 40 years tracking down movie locations in the greater Los Angeles area." Smith is the author of three previous books on the subject, one of which (*Famous Hollywood Locations*) was published by McFarland in 1993. This work is a follow-up to that volume and does not repeat any information.

Los Angeles has often been seen as the largest movie set in the world — indeed, any longtime resident might eventually be featured on TV or film. Smith's book documents more than 335 motion pictures and 86 TV series that were filmed in Los Angeles and San Diego.

Smith even provides directions to each site discussed in his book, along with corresponding map code from the essential Thomas Guide. What more could you ask? ■

SIGMUND LUBIN

by Ray Zone & Chuck Roblin



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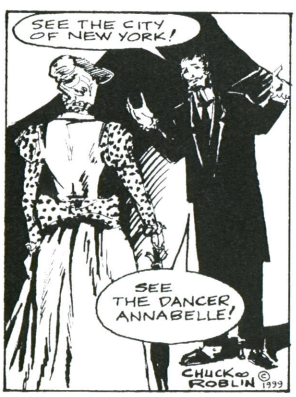

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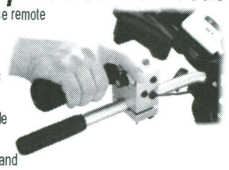

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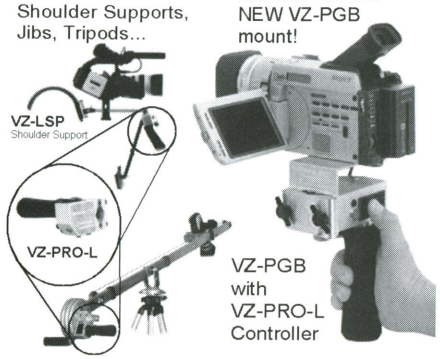

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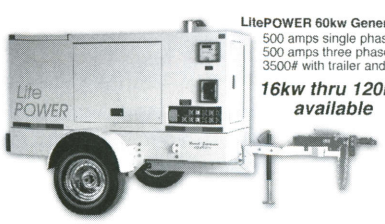

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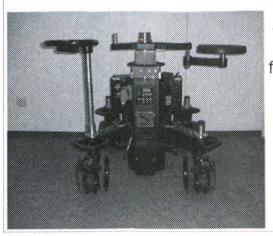

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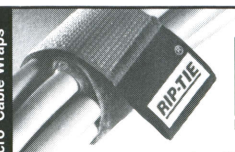

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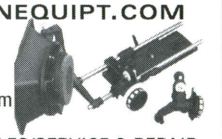

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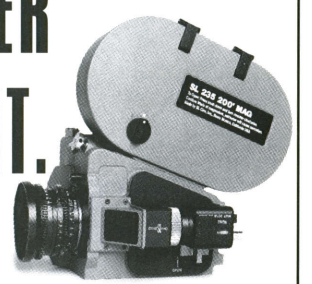

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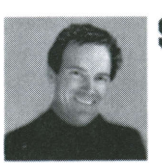

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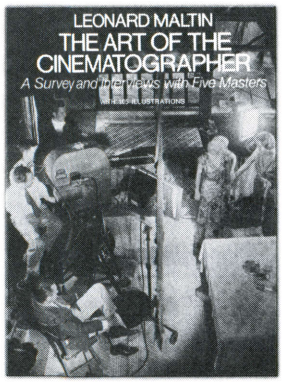

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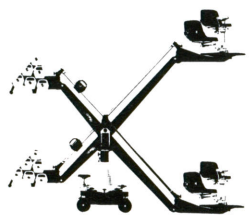

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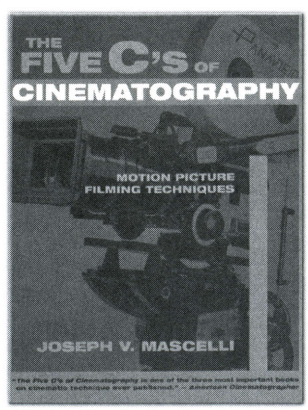

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Lighting *Dances With Wolves* With Dean Semler, ASC, ACS
Program includes Semler discussing and demonstrating:
• Widescreen composition.
• The relationship between lighting design and coverage.
• The best use of high-speed film stocks in low-light situations.
F785 29 min. Producer: AFTRS

Lighting *Dead Poets Society* With John Seale, ASC, ACS
• Seale guides the students and our camera through the lighting setups he used for scenes set in summer, winter, night and day.
• He also divulges tricks and techniques that he uses to achieve extremely difficult effects while maximizing the number of takes each day.
F786 28 min. Producer: AFTRS

Studio Lighting: A Comparative Workshop With Donald McAlpine, ASC, ACS & Denis Lenoir, AFC
Topics include:
• Studio practice
• Lighting design
• Color temperature
• Lighting metering
• Use of practical lamps
F787 59 min. Producer: AFTRS

Location Lighting With Geoff Burton
Topics include:
• Maximum use of natural lighting resources.
• Working with limited space on location.
• How fast stocks and fast work can be critical to success.
F788 29 min. Producer: AFTRS

Shooting for Realism With Allen Daviau, ASC & Sacha Vierny
Program highlights:
• Daviau and Vierny were each given the same script and set to work with, and they share their individual approaches to the problem.
• Computer graphics of the lighting setups as well, as side-by-side comparisons of the finished scenes, illustrate their approaches.
F802 55 min. Producer: AFTRS

Shooting for Drama With Robby Müller, NSC, BVK & Peter James, ASC, ACS, CSC
Program highlights:
• Each cinematographer was given the same script and set constraints. The results were beautiful images that reflect their different backgrounds and philosophies on the art and business of filmmaking.
• The video culminates with a split-screen comparison of each cinematographers finished piece.
F803 55 min. Producer: AFTRS

Shooting for Fantasy With Sacha Vierny & Denis Lenoir
Program highlights:
• Lenoir demonstrates how to use one special effect to hide another.
• Learn how to combine several effects to create magic.
F804 55 min. Producer: AFTRS

Shooting for Black-and-White With Allen Daviau & Denis Lenoir
Program highlights:
• As well as being a storehouse of practical information, this program is an ode to the haunting beauty of black-and-white cinematography and a wonderful essay on the changing art of the cinematographer from the 1920s to the present day.
F805 55 min. Producer: AFTRS

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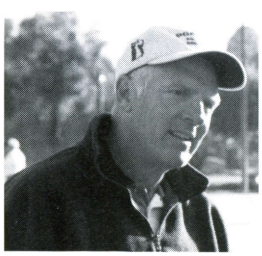
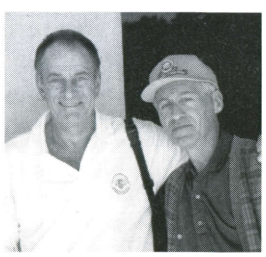




Top: From left to right, ASC members Chuck Rosher, Bobby Byrne and Bradley Six take a break. Second from top: Howard Anderson, Jr., ASC; Joanne Reeves; Kathy Anderson; and Howard Anderson III, ASC — four players, but only three clubs. Middle left: Winner Frank Johnson, ASC. Middle right: Members Owen Roizman and Woody Omens on their way to another hole. Bottom left: Aaron Schneider, ASC and associate member Brian Spruill of Kodak practice "being the ball." Bottom right: Michael Margulies, ASC and Marty Ollstein of Tiffen await their turns at the tee.

Fore!

On the lush greens of Brookside Golf Course #2, the ASC hosted its 17th Annual ASC Golf Course Classic, where members, associate members and guests teed up and let their clubs fly. This year's tournament, held June 5 in Pasadena, once again featured a bright and early shotgun start, and all foursomes started at the same time on 18 different holes. The midday break featured a barbecue lunch complete with all the trimmings.

After the final balls were pulled out of the cups (or, in some cases, sandtraps) and the final carts parked, the scores were tallied. No golfer was able to claim the $10,000 grand prize for a hole-in-one on Hole #5. (Whew!)

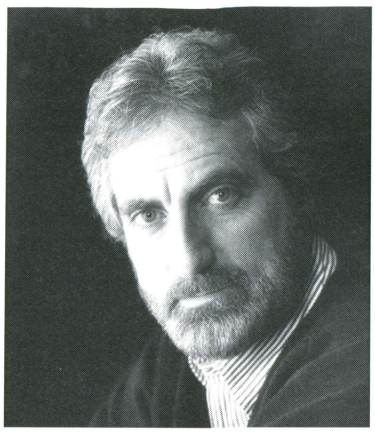
For the ASC members, Frank Johnson fired his way to the top with the lowest gross score of 77; his name will be inscribed on the Presidents Perpetual Trophy. Dennis Smith shot the lowest net score of 69.5; he will be immortalized on the side of the Governors Perpetual Trophy. Bradley Six (72) and Don Burgess (72) placed second and third low net, respectively.

Of the associate members, Brian Spruill's 83 earned him the low gross prize, while Bill Bickford (71) took first place low net with Bill Broderson (71) and George Hutchison (72) on his heels in second and third place, respectively.

In the women's division, Kathy Anderson (110) won low gross, with Shannon Keating (72), Sandy Kurotobi (76.5) and Joanne Reeves (76.5) placing first, second and third in the low net category.

For the guests, Pat McGinness (73) won low gross, with Ted Harrison (68), Jon Kunkel (69) and Michael Burgess (69) placing first, second and third low net.

Winners received their trophies and secondary prizes were handed out at the June 19 wrap party at the ASC Clubhouse, where all golfers enjoyed cocktails and a fabulous dinner.



New Member

In addition to features, commercials and television movies, **Reed Smoot** has specialized in the production and photography of large-format films, including *Grand Canyon: The Hidden Secrets, To Be An Astronaut* and *Mysteries of Egypt*. His large-format film *Special Effects* was nominated for an Academy Award in 1996. He has also received Oscar nominations for his short-subject films *The Rainbow War* and *Ballet Robotique*.

In the realm of the not-so-big screens, Smoot has photographed the 35mm features *Homeward Bound: The Incredible Journey, Russkies* and *Gleaming the Cube*. His documentary feature *The Great American Cowboy* earned an Academy Award. For the television screen, he served as director of photography on such films as *Lucy and Desi: Before the Laughter* and *Out of Annie's Past*, and was the co-cinematographer on the NBC miniseries *The Long Hot Summer*.

Smoot recently completed the IMAX 3-D film *The Journey of Man* for Sony Pictures/Cirque du Soleil, which is featured in this issue on page 104. ■

Filmmakers' Forum — *continued from page 176*
been blurred or thrown off completely in the confusion generated by the relentless change. With enormous amounts of cash at stake for manufacturers of these new wares, it's no surprise they play fast and loose with the facts.

But if money is the only thing that matters — and this includes the yet- to-be proven savings that make some digital tools superficially attractive to producers — what about the audience? What about lighting and composing a picture for the screen — i.e., the essence of what we do? It is universally acknowledged that at its best, optically projected 35mm motion-picture film is the standard against which any competing system is judged. Right now, digital has a long way to go in measuring up to celluloid as a mode of both capture and delivery (or as an archival medium, for that matter). Given the uneven quality of theatrical presentation throughout the world, the argument over what is "good enough" then becomes an adjunct to economic concerns, but that is a cynical conceit and totally without merit. Everyone knows what is good enough, even those too deluded by the hype or too future-happy to admit it.

Everyone also wants to save a buck. True, it costs less to live in a lousy neighborhood, eat baked beans at every meal and ride the bus all over town to work. But does that mean it would be better for any of us to live in such a fashion? It would if we followed the herd mentality and automatically accepted new as better, opinion as fact and movement as progress.

I can already envision the lockstep opposition's retort, but it would be disingenuous to characterize this threat to the visual quality of movies as another film vs. video/high-def/digital debate. That's a hobbyist's mentality at work. It's not about resistance to change or fear of the future, either. As professional directors of photography, we *are* the future! Going back to day one, the history of filmmaking clearly establishes that cinematographers have always been and continue to be the brightest innovators and the first to embrace and encourage technological improvement. Indeed, we're excited by the prospect of the new brushstrokes that digital technology will bring to our art, and we're waiting with giddy anticipation for what will come next.

As for the most malicious attack — that cinematographers are afraid of losing our power base because a so-called "digital democratization" will undermine our primacy and make our "secrets" accessible to all — well, that's just nonsense. For any person interested enough to have learned, there never have been any secrets. And to those who think they'll be waltzing into our world at the major-league level by virtue of a new chip that supposedly makes exposure idiot-proof, I say this: please call me — I can always use a good laugh.

The importance of taking a strong stand for what is right can never be overstated. The call now is to join cinematographers in looking beyond narrow concerns to take in the big picture. Unquestionably, digital technology is here to stay, and we are ecstatic about what it might ultimately offer. It is improving all the time, and the best of it as applied to traditional cinematography would make the old studio masters green with envy. However, this progress also brings with it an immense responsibility. Subsequent generations will go into theaters and accept without complaint whatever they are exposed to as the standard of their day. Whether that standard meets the highest levels established thus far by photochemical means demands a choice between truth and untruth. The combination of technical mastery and deep-rooted artistic passion possessed by all cinematographers secures the high ground for us on every front of this war. Given this position, the battle is ours to lose. ■

Filmmakers' Forum

Into the Digital Breach

by Richard Crudo, ASC

When I was in first grade, my parents took me to the 1964 World's Fair at New York's Flushing Meadow Park. I can still vividly recall the overwhelming sense of optimism that pervaded the grounds, the feeling that things were moving fast and a perpetually better future was the flip of a switch away. The spare-no-expense philosophy and James Bond-meets-the-space-age gadgetry of the attending corporations encouraged a weird euphoria that made us all believe that no matter which direction society chose, the glossy technology they were selling would be the solution to every problem.

Well, if the litany of human events played out over the ensuing 36 years isn't proof of the astounding silliness behind the fair's big fib, then I suggest you take a quick flight around the neighborhood by way of your NASA-designed personal jet pack (circa 1970, of course). In my defense, the majority of adults were fooled by the hyperbole fronting the essential hollowness. And it is this fact above all that parallels the profoundly disturbing situation that faces cinematographers today.

The outrageous claims made by the multinationals of 1964 were enabled by overenthused public-relations machines and a drowsily complicit press. The flacks simply repeated their lies loud and hard until they became accepted as facts by an unsuspecting populace. A stroll down the aisle of any recent industry trade show would indicate that manufacturers and vendors of new cinema technologies have sharpened this tactic with some outrageous claims about their products. While we might accept this for common advertising, in the context of advancing an art form these calculated acts of deception are no less immoral and just as destructive. Propped up by the most irresponsible journalism this side of the political beat, they are doing a massive disservice that, if left unchecked, could result in a serious degradation of our craft.

The entire issue revolves around how our changing business will ultimately relate to the long-established standards of cinematographic excellence — and more specifically, whether

Right now, digital has a long way to go in measuring up to celluloid as a mode of both capture and delivery.

or not the new digital devices that are being rushed to market will allow us to at least equal if not surpass the best of what we already put on screen.

This shaking-out process can be viewed as a war, with truth as the first casualty. Many of the men and women at the forefront of the "digital revolution" are merely salespeople who think they know what's best for us, but they really do not. Their unanimous lack of any substantive creative résumé would be comical if it didn't indicate such an alarming need for education across the industry. I've lost count of how many seminars and demonstrations I've attended in which a manufacturer's representative is bent on convincing me I'm seeing something that is plainly not there on the screen. Pardon me for being certain of my own experience and taste, but a background in electronics or an Ivy League marketing degree does not a director of photography make — nor does the ability to spout self-important and baseless claims that something is "inevitable." Their failure to acknowledge film and digital as entirely distinct mediums underscores the main reason why cinematographers will always reserve the right to recognize the only aesthetic and technical judgment that matters: their own.

Exacerbating matters is the fact that with few exceptions, the trade press has played directly into the manufacturers' hands. The uninformed posture of most of the writing from the trenches is baffling when facts are only a phone call away. While dis- and misinformation are hurtful enough when picked up by the mainstream media, trade pieces — which invariably conclude that "film is dead" — are even more damaging, especially because undiscriminating executive decision-makers often look to these questionable sources for justification. Objective, unbiased, impartial news seems to have become a quaint notion in the face of a widespread effort to dumb down cinematography. The reasons for this are incomprehensible, and the most insistent proselytizers, like the legion of manufacturers' yes-men, are generally the least qualified to comment on the situation. Witness the blatantly anti-film/pro-digital agenda of so many reporters — which is both amusing and incredible, given the fact that they have virtually no practical experience with cinema. Cast in this fashion, it's easy to see that much of what these people are publishing is not journalism — it's propaganda.

Then again, who's kidding whom? When everything boils down to money, extra vigilance is required to ensure that art doesn't lose out. The advancements of the past few years have come at a pace and volume that the cameramen of the studio era could never have imagined over an entire career. Consequently, many of the long-standing rules have

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New Sekonic L-508 Cine

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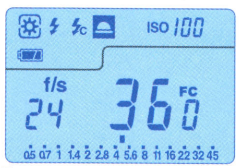
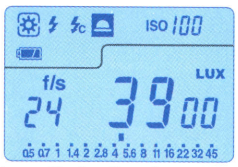
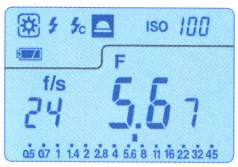


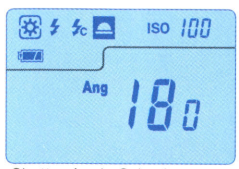
Footcandle + Shutter Speeds F.P.S. + f/stop



Lux + Shutter Speeds F.P.S. + f/stop



Shutter Speeds F.P.S. + f/stop



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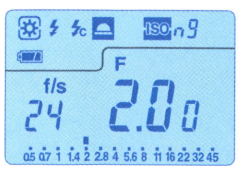

Filter Compensation

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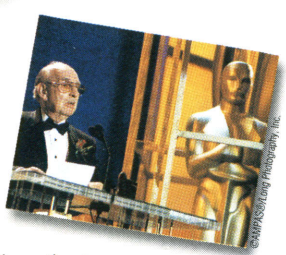

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